

## SEQUENCE LISTING

<110> The Trustees of the University of Pennsylvania  
 Roy, Soumitra  
 Wilson, James M.

<120> Methods of Generating Chimeric Adenoviruses and Uses For Such  
 Chimeric Adenoviruses

<130> UPN-P3067PCT

<150> US 10/465,302  
 <151> 2003-06-20

<150> US 60/566,212  
 <151> 2004-04-28

<150> US 60/575,429  
 <151> 2004-05-28

<160> 18

<170> PatentIn version 3.2

<210> 1  
 <211> 36462  
 <212> DNA  
 <213> chimpanzee adenovirus serotype Pan5

<400> 1  
 catcatcaat aatatacctc aaacttttgg tgcgcgttaa tatgcaaag aggtatttga 60  
 atttggggat gcggggcggt gattggctgc gggagcggcg accgttaggg gcggggcggg 120  
 tgacgttttg atgacgtggc cgtgaggcgg agccggtttg caagtctctg tgggaaaagt 180  
 gacgtcaaac gaggtgtggt ttgaacacgg aaatactcaa ttttcccgcg ctctctgaca 240  
 ggaaatgagg tgtttctggg cggatgcaag tgaaaacggg ccattttcgc gcgaaaactg 300  
 aatgaggaag tgaaaatctg agtaattccg cgtttatggc agggaggagt atttgccgag 360  
 ggccgagtag actttgaccg attacgtggg ggtttcgatt accgtatttt tcacctaaat 420  
 ttccgcgtac ggtgtcaaag tccggtgttt ttacgtaggt gtcagctgat cgccagggta 480  
 tttaaacctg cgctctctag tcaagaggcc actcttgagt gccagcgagt agagttttct 540  
 cctccgcgcc gcgagtcaga tctacacttt gaaagatgag gcacctgaga gacctgcccg 600  
 gtaatgtttt cctggctact gggaacgaga ttctggaact ggtggtggac gccatgatgg 660  
 gtgacgaccc tccggagccc cctaccccat ttgaagcgcc ttcgctgtac gatttgatat 720  
 atctggaggt ggatgtgccc gagaacgacc ccaacgagga ggcggtgaat gatttgttta 780  
 gcgatgccgc gctgctggct gccgagcagg ctaatacggg ctctggctca gacagcgatt 840  
 cctctctcca taccctgaga cccggcagag gtgagaaaaa gatccccgag cttaaagggg 900  
 aagagctcga cctgcgctgc tatgaggaat gcttgccctc gagcgatgat gaggaggacg 960  
 aggaggcgat tcgagctgca gcgaaccagg gagtgaaaac agcgagcgag ggcttttagcc 1020  
 tggactgtcc tactctgccc ggacacggct gtaagtcttg tgaatttcat cgcatgaata 1080  
 ctggagataa gaatgtgatg tgtgccctgt gctatatgag agcttacaac cattgtgttt 1140  
 acagtaagtg tgattaactt tagctgggga ggcagagggg gactgggtgc tgactggttt 1200

atztatgtat atgtttttta tgtgtaggtc ccgctctctga cgtagatgag acccccacta	1260
cagagtgcac ttcatcaccc ccagaaattg gcgaggaacc gcccgaagat attattcata	1320
gaccagttgc agtgagagtc accgggcgta gagcagctgt ggagagtttg gatgacttgc	1380
tacaggggtg ggatgaacct ttggacttgt gtacccggaa acgccccagg cactaagtgc	1440
cacacatgtg tgtttactta aggtgatgtc agtatttata ggggtgtggag tgcaataaaa	1500
tccgtgttga ctttaagtgc gtggtttatg actcaggggt ggggactgtg ggtatataag	1560
caggtgcaga cctgtgtggt cagttcagag caggactcat ggagatctgg acagtcttgg	1620
aagactttca ccagactaga cagctgctag agaactcatc ggagggagtc tcttacctgt	1680
ggagattctg cttcggtggg cctctagcta agctagtcta tagggccaag caggattata	1740
aggatcaatt tgaggatatt ttgagagagt gtcctggtat ttttgactct ctcaacttgg	1800
gccatcagtc tcactttaac cagagtattc tgagagccct tgacttttct actcctggca	1860
gaactaccgc cgcggtagcc ttttttgcct ttatccttga caaatggagt caagaaaccc	1920
atttcagcag ggattaccgt ctggactgct tagcagtagc tttgtggaga acatggaggt	1980
gccagcgcct gaatgcaatc tccggctact tgccagtaca gccggtagac acgtgagga	2040
tcctgagtct ccagtcaccc caggaacacc aacgccgcca gcagccgag caggagcagc	2100
agcaagagga ggaccgagaa gagaacctga gagccggtct ggaccctccg gtggcggagg	2160
aggaggagta gctgacttgt ttcccagct gcgccgggtg ctgactaggt cttccagtgg	2220
acgggagagg gggattaagc gggagaggca tgaggagact agccacagaa ctgaactgac	2280
tgtcagtctg atgagtcgca ggcgcccaga atcgggtgtg tgcatgagg tgagtcgca	2340
gggtagatg gaggtctcag tgatgcatga gaaatattcc ctagaacaag tcaagacttg	2400
ttggttggag cccgaggatg attgggaggt agccatcagg aattatgcca agctggctct	2460
gaggccagac aagaagtaca agattaccaa actgattaat atcagaaatt cctgctacat	2520
ttcagggaaat ggggcccagg tggagatcag taccaggag agggtagcct tcagatgctg	2580
catgatgaat atgtaccgg ggggtgtgg catggaggga gtcaccttta tgaacgcgag	2640
gttcaggggt gatgggtata atggggtggt ctttatggcc aacaccaagc tgacagtga	2700
cggatgctcc ttctttggct tcaataacat gtgcattgag gcctggggca gtgtttcagt	2760
gaggggatgc agtttttcag ccaactggat gggggtcgtg ggcagaacca agagcatggt	2820
gtcagtgaag aaatgcctgt tcgagaggtg ccacctggg gtgatgagcg agggcgaagc	2880
caaagtcaaa cactgcgct ctaccgagac gggctgcttt gtactgatca agggcaatgc	2940
caaagtcaag cataatatga tctgtggggc ctcggatgag cgcggtacc agatgctgac	3000
ctgcgccggt gggaaacagcc atatgctagc caccgtgcat gtggcctcgc acccccgcaa	3060
gacatggccc gagttcgagc acaacgtcat gacccgctgc aatgtgcacc tggggctccg	3120
ccgaggcatg ttcatgccct accagtgcaa catgcaattt gtgaagggtg tgctggagcc	3180
cgatgccatg tccagagtga gcctgacggg ggtgtttgac atgaatgtgg agctgtggaa	3240

aattctgaga	tatgatgaat	ccaagaccag	gtgccgggcc	tgcgaatgcg	gaggcaagca	3300
cgccaggctt	cagcccgtgt	gtgtggaggt	gacggaggac	ctgcgacccg	atcatttggt	3360
gttgtcctgc	aacgggacgg	agttcggctc	cagcggggaa	gaatctgact	agagtgagta	3420
gtgtttggga	ctgggtggga	gcctgcatga	tgggcagaat	gactaaaatc	tgtgtttttc	3480
tgcgcagcag	catgagcggg	agcgcctcct	ttgagggagg	ggtattcagc	ccttatctga	3540
cggggcgtct	cccctcctgg	gcgggagtg	gtcagaatgt	gatgggatcc	acggtggacg	3600
gccggcccgt	gcagcccgcg	aactcttcaa	ccctgaccta	cgcgaccctg	agctcctcgt	3660
ccgtggacgc	agctgccgcc	gcagctgctg	cttcgccgcg	cagcgccgtg	cgcggaatgg	3720
ccctgggcgc	cggctactac	agctctctgg	tggccaactc	gagttccacc	aataatcccg	3780
ccagcctgaa	cgaggagaag	ctgctgctgc	tgatggccca	gctcgaggcc	ctgaccacgc	3840
gcctgggcga	gctgaccacg	caggtggctc	agctgcaggc	ggagacgcgg	gccgcggttg	3900
ccacggtgaa	aaccaataaa	aaaatgaatc	aataaataaa	cggagacggt	tgttgatattt	3960
aacacagagt	cttgaatctt	tatttgattt	ttcgcgcgcg	gtaggccctg	gaccaccggt	4020
ctcgatcatt	gagcaccgcg	tggatctttt	ccaggacccg	gtagaggtgg	gcttggtatgt	4080
tgaggtacat	gggcatgagc	ccgtcccggg	ggtggaggta	gctccattgc	agggcctcgt	4140
gctcgggggt	ggtgttgtaa	atcaccacgt	catagcaggg	gcgcagggcg	tggtgctgca	4200
cgatgtcctt	gaggaggaga	ctgatggcca	cgggcagccc	cttgggtgag	gtgttgacga	4260
acctgttgag	ctgggaggga	tgcattggcg	gggagatgag	atgcatcttg	gcctggatct	4320
tgagattggc	gatgttcccg	cccagatccc	gccgggggtt	catgttgctg	aggaccacca	4380
gcacggtgta	tccggtgcac	ttgggggaatt	tgatcatgca	cttgggaagg	aaggcgtgaa	4440
agaatttgga	gacgcccttg	tgaccgccca	ggttttccat	gcactcatcc	atgatgatgg	4500
cgatggggcc	gtgggcggcg	gcttggggca	agacgtttcg	ggggtcggac	acatcgtagt	4560
tgtggtcctg	ggtgagctcg	tcataggcca	ttttaatgaa	tttggggcgg	aggggtgccc	4620
actgggggac	gaagggtgcc	tcgatcccgg	gggcgtagtt	gccctcgag	atctgcatct	4680
cccaggcctt	gagctcggag	ggggggatca	tgtccacctg	cggggcgatg	aaaaaaacgg	4740
tttccggggc	gggggagatg	agctggggcg	aaagcagggt	ccggagcagc	tgggacttgc	4800
cgcagccggt	ggggccgtag	atgaccccga	tgaccggctg	caggtggtag	ttgagggaga	4860
gacagctgcc	gtcctcgcgg	aggagggggg	ccacctcggt	catcatctcg	cgcacatgca	4920
tgttctcgcg	cacgagttcc	gccaggaggc	gctcgccccc	aagcgagagg	agctcttgca	4980
gcgaggcgaa	gtttttcagc	ggcttgagcc	cgctcgccat	gggcattttg	gagaggggtct	5040
gttgcaagag	ttccagacgg	tcccagagct	cggtgatgtg	ctctagggca	tctcgatcca	5100
gcagacctcc	tcgtttcgcg	ggttggggcg	actgcgggag	tagggcacca	ggcgatgggc	5160
gtccagcgag	gccagggtcc	ggtccttcca	ggggcgagcg	gtccgcgtca	gcgtgggtctc	5220
cgtcacgggtg	aagggtgctg	cgccgggctg	ggcgcttgctg	aggggtgcgt	tcagggtcat	5280
ccggctgggtc	gagaaccgct	cccggtcggc	gccctgcgcg	tcggccagggt	agcaattgag	5340

catgagttcg	tagttgagcg	cctcggccgc	gtggcccttg	gcgcggagct	tacctttgga	5400
agtgtgtccg	cagacgggac	agaggagggg	cttgagggcg	tagagcttgg	gggcgaggaa	5460
gacggactcg	ggggcgtagg	cgtccgcgcc	gcagctggcg	cagacggtct	cgcactccac	5520
gagccaggtg	aggtctggcc	ggtcggggtc	aaaaacgagg	tttcctccgt	gctttttgat	5580
gcgtttctta	cctctggtct	ccatgagctc	gtgtccccgc	tgggtgacaa	agaggctgtc	5640
cgtgtccccg	tagaccgact	ttatggggcg	gtcctcgagc	ggggtgccgc	ggtcctcgtc	5700
gtagaggaa	cccgccact	ccgagacgaa	ggcccgggtc	caggccagca	cgaaggaggc	5760
cacgtgggag	gggtagcgg	cgttgtccac	cagcgggtcc	accttctcca	gggtatgcaa	5820
gcacatgtcc	ccctcgtcca	catccaggaa	ggtgattggc	ttgtaagtgt	agggcacgtg	5880
accgggggtc	ccggccgggg	gggtataaaa	gggggcgggc	ccctgctcgt	cctcactgtc	5940
ttccggatcg	ctgtccagga	gcgccagctg	ttggggtagg	tattccctct	cgaaggcggg	6000
catgacctcg	gcactcaggt	tgtcagtttc	tagaaacgag	gaggatttga	tattgacgg	6060
gccgttgag	acgcctttca	tgagcccctc	gtccatctgg	tcagaaaaga	cgatcttttt	6120
gttgtcgagc	ttggtggcga	aggagccgta	gagggcggtg	gagagcagct	tggcgatgga	6180
gcgcatggtc	tggttctttt	ccttgctcgg	gcgctccttg	gcggcgatgt	tgagctgcac	6240
gtactcgcgc	gccacgcact	tccattcggg	gaagacggtg	gtgagcttgt	cgggcacgat	6300
tctgaccgcg	cagccgcggt	tgtgcagggt	gatgaggtcc	acgctgggtg	ccacctcgcc	6360
gcgcaggggc	tcgttggtcc	agcagaggcg	cccgcccttg	cgcgagcaga	aggggggcag	6420
cgggtccagc	atgagctcgt	cgggggggtc	ggcgtccacg	gtgaagatgc	cgggcaggag	6480
ctcggggctg	aagtagctga	tgcagggtgc	cagatcgtcc	agcgcgctt	gccagtcgcg	6540
cacggccagc	gcgcgctcgt	aggggctgag	gggcgtgccc	cagggcatgg	ggtgcgtgag	6600
cgcggaggcg	tacatgccgc	agatgtcgta	gacgtagagg	ggctcctcga	ggacgccgat	6660
gtaggtgggg	tagcagcgcc	ccccgcggat	gctggcgcg	acgtagtcgt	acagctcgtg	6720
cgagggcgcg	aggagcccgg	tgccgagggt	ggagcgtg	ggcttttcgg	cgcggtagac	6780
gatctggcgg	aagatggcgt	gggagttgga	ggagatggtg	ggcctctgga	agatgttgaa	6840
gtgggcgtgg	ggcagtcgga	ccgagtcctt	gatgaagtgg	gcgtaggagt	cctgcagctt	6900
ggcgacgagc	tcggcggtga	cgaggacgtc	cagggcgag	tagtcgaggg	tctcttggtg	6960
gatgtcgtag	ttgagctggc	ccttctgctt	ccacagctcg	cggttgagaa	ggaactcttc	7020
gcggtccttc	cagtactctt	cagaggggaa	cccgtcctga	tcggcacggt	aagagcccac	7080
catgtagaac	tggttgacgg	ccttgtaggc	gcagcagccc	ttctccacgg	ggagggcgta	7140
agcttgcgcg	gccttgcgca	gggaggtgtg	ggtgagggcg	aaggtgtcgc	gcaccatgac	7200
cttgaggaac	tggtgcttga	agtcgaggtc	gtcgcagccg	ccctgctccc	agagctggaa	7260
gtccgtgcgc	ttctttagg	cgggggtggg	caaagcgaaa	gtaacatcgt	tgaagaggat	7320
cttgcccgcg	cggggcatga	agttgcgagt	gatgcggaaa	ggctggggca	cctcggccccg	7380

gttgttgatg	acctgggagg	cgaggacgat	ctcgtcgaag	ccgttgatgt	tgtgcccagc	7440
gatgtagagt	tccacgaatc	gcgggaggcc	cttgacgtgg	ggcagcttct	tgagctcgtc	7500
gtaggtgagc	tcggcggggt	cgctgaggcc	gtgctgctcg	agggcccagt	cggcgaggtg	7560
ggggttgccg	ccgaggaagg	aagtccagag	atccacggcc	agggcgggtc	gcaagcggtc	7620
ccggtactga	cggaaactgct	ggcccacggc	catttttttcg	ggggtgacgc	agtagaaggt	7680
gcgggggtcg	ccgtgccagc	ggccccactt	gagctggagg	gcgaggctgt	gggcgagctc	7740
gacgagcggc	gggtcccccg	agagtttcat	gaccagcatg	aaggggacga	gctgcttgcc	7800
gaaggacccc	atccagggtgt	aggtttccac	gtcgtaggtg	aggaagagcc	tttcgggtcg	7860
aggatgcgag	ccgatgggga	agaactggat	ctcctgccac	cagttggagg	aatggctgtt	7920
gatgtgatgg	aagtagaaat	gccgacggcg	cgccgagcac	tcgtgcttgt	gtttatacaa	7980
gcgtccgcag	tgctcgcaac	gctgcacggg	atgcacgtgc	tgacagagct	gtacctgggt	8040
tcctttgacg	aggaatttca	gtgggcagtg	gagcgctggc	ggctgcatct	ggtgctgtac	8100
tacgtcctgg	ccatcggcgt	ggccatcgtc	tgctcgtatg	gtggtcatgc	tgacgaggcc	8160
gcgcgggagg	caggtcacga	cctcggctcg	gacgggtcgg	agagcgagga	cgagggcgcg	8220
caggccggag	ctgtccaggg	tcctgagacg	ctgcggagtc	aggtcagtgg	gcagcggcgg	8280
cgcgcggttg	acttgacagga	gcttttccag	ggcgcgcggg	aggtccagat	ggtacttgat	8340
ctccacggcg	ccgttggtgg	cgacgtccac	ggcttgacgg	gtcccgtgcc	cctggggcgc	8400
caccaccgtg	ccccgtttct	tcttggtgct	tggcgggcgc	ggctccatgc	ttagaagcgg	8460
cggcgaggac	gcgcgccggg	cggcaggggc	ggctcggggc	ccggaggcag	gggcggcagg	8520
ggcacgtcgg	cgccgcgcgc	gggcagggtc	tggtagctgc	cccggagaag	actggcgtga	8580
gcgacgacgc	gacggttgac	gtcctggatc	tgacgcctct	gggtgaaggc	cacgggaccc	8640
gtgagtttga	acctgaaaga	gagttcgaca	gaatcaatct	cggtatcgtt	gacggcgggc	8700
tgccgcagga	tctcttgac	gtcggccgag	ttgtcctggt	aggcgatctc	ggtcatgaac	8760
tgctcgtatc	cctcctcctg	aaggctctcc	cgaccggcgc	gctcgacggt	ggccgcgagg	8820
tcgttgagga	tgcgggccat	gagctgcgag	aaggcgttca	tgccggcctc	gttcagacg	8880
cggctgtaga	ccacggctcc	gtcggggctc	cgcgcgcgca	tgaccacctg	ggcgagggtg	8940
agctcgacgt	ggcgcgtaga	gaccgcgtag	ttgcagaggc	gctggtagag	gtagttgagc	9000
gtggtggcga	tgtgctcggg	gacgaagaag	tacatgatcc	agcggcgagg	cggcatctcg	9060
ctgacgtcgc	ccagggttcc	caagcgctcc	atggcctcgt	agaagtccac	ggcgaagttg	9120
aaaaactggg	agttgcgcgc	cgagacgggtc	aactcctcct	ccagaagacg	gatgagctcg	9180
gcgatggtgg	cgcgcacctc	gcgctcgaag	gccccggggg	gtcctcttcc	ttccatctcc	9240
tcctcctctt	ccatctcctc	cactaacatc	tcttctactt	cctcctcagg	aggcggcggc	9300
gggggagggg	ccctgcgtcg	ccggcgggcg	acgggcagac	ggtcgatgaa	gcgctcgatg	9360
gtctccccgc	gccggcgacg	catggtctcg	gtgacggcgc	gcccgtcctc	gcggggccgc	9420
agcgtgaaga	cgccgccgcg	catctccagg	tggccggcgg	gggggtctcc	gttgggcagg	9480

gagagggcgc tgacgatgca tcttatcaat tggcccgtag ggactccgcg caaggacctg 9540  
 agcgtctcga gatccacggg atccgaaaac cgctgaacga aggcttcgag ccagtcgcag 9600  
 tcgcaaggta ggctgagccc ggtttcttgt tcttcgggta tttggtcggg aggcgggcgg 9660  
 gcgatgctgc tggatgatgaa gttgaagtag gcggtcctga gacggcggat ggtggcgagg 9720  
 agcaccaggt ccttgggccc ggcttgctgg atgcgcagac ggtcggccat gcccagggcg 9780  
 tggctctgac acctggcgag gtccttgtag tagtcctgca tgagccgctc cacgggcacc 9840  
 tcctcctcgc ccgcgcggcc gtgcatgcgc gtgagccga acccgcgctg cggctggacg 9900  
 agcgccaggt cggcgacgac gcgctcggcg aggatggcct gctggatctg ggtgagggtg 9960  
 gtctggaagt cgtcgaagtc gacgaagcgg tggtaggctc cgggtgtgat ggtgtaggag 10020  
 cagttggcca tgacggacca gttgacggtc tggtagccgg ggcgcacgag ctcgtggtac 10080  
 ttgaggcgcg agtaggcgcg cgtgtcgaag atgtagtcgt tgcagggtcg cacgaggtac 10140  
 tggatatccga cgaggaagtg cggcggcggc tggcggtaga gcggccatcg ctcggtggcg 10200  
 ggggcgccgg gcgcgaggtc ctcgagcatg aggcgggtgg agccgtagat gtacctggac 10260  
 atccaggtga tgccggcggc ggtggtggag gcgcgcggga actcgcggac gcggttccag 10320  
 atgttgcgca gcggcaggaa gtagttcatg gtggccgcgg tctggcccgt gaggcgcgcg 10380  
 cagtcgtgga tgctctagac atacgggcaa aaacgaaagc ggtcagcggc tcgactccgt 10440  
 ggcctggagg ctaagcgaac gggttgggct gcgcgtgtac cccggttcga gtccctgctc 10500  
 gaatcaggct ggagccgcag ctaacgtggt actggcactc ccgtctcgac ccaagcctgc 10560  
 taacgaaacc tccaggatac ggaggcgggt cgttttggcc attttcgtca ggccggaaat 10620  
 gaaactagta agcgcggaaa gcggccgtcc gcgatggctc gctgccgtag tctggagaaa 10680  
 gaatcgccag ggttgcggtg cgggtggtccc cggttcgagc ctcagcgctc ggcgccggcc 10740  
 ggattccgcg gctaacgtgg gcgtggctgc cccgtcgttt ccaagacccc ttagccagcc 10800  
 gacttctcca gttacggagc gagcccctct ttttcttgtg tttttgccag atgcatcccg 10860  
 tactgcggca gatgcgcccc caccctccac cacaaccgcc cctaccgcag cagcagcaac 10920  
 agccggcgct tctgcccccg cccagcagc agcagccagc cactaccgcg gcggccgcgcg 10980  
 tgagcggagc cggcgttcag tatgacctgg ccttggaaaga gggcgagggg ctggcgcggc 11040  
 tgggggcgtc gtcgccggag cggcacccgc gcgtgcagat gaaaagggac gctcgcgagg 11100  
 cctacgtgcc caagcagaac ctgttcagag acaggagcgg cgaggagccc gaggagatgc 11160  
 gcgcctcccg cttccacgcg gggcgggagc tgccggcgcg cctggaccga aagcgggtgc 11220  
 tgagggacga ggatttcgag gcggacgagc tgacggggat cagccccgcg cgcgcgcacg 11280  
 tggccgcggc caacctggct acggcgctac agcagaccgt gaaggaggag agcaacttcc 11340  
 aaaaatcctt caacaaccac gtgcgcacgc tgatcgcgcg cgaggaggtg accctggggc 11400  
 tgatgcacct gtgggacctg ctggaggcca tcgtgcagaa cccacgcagc aagccgctga 11460  
 cggcgcagct gtttctgggt gtgcagcaca gtcgggacaa cgagacgttc agggaggcgc 11520

tgctgaatat caccgagccc gagggccgct ggctcctgga cctggtgaac attctgcaga 11580  
gcatcgtggt gcaggagcgc gggctgccgc tgtccgagaa gctggcggcc atcaacttct 11640  
cgggtgctgag cctgggcaag tactacgcta ggaagatcta caagacccccg tacgtgcca 11700  
tagacaagga ggtgaagatc gacgggtttt acatgcgcat gaccctgaaa gtgctgacct 11760  
tgagcgacga tctgggggtg taccgcaacg acaggatgca ccgcgcggtg agcgccagcc 11820  
gccggcgcgga gctgagcgac caggagctga tgcacagcct gcagcgggccc ctgaccgggg 11880  
ccgggaccga gggggagagc tactttgaca tgggcgcgga cctgcgctgg cagcctagcc 11940  
gccgggcctt ggaagctgcc ggcggttccc cctacgtgga ggaggtggac gatgaggagg 12000  
aggagggcga gtacctggaa gactgatggc gcgaccgtat ttttgctaga tgcagcaaca 12060  
gccaccgccc cctcctgata ccgcgatgcg ggcggcgctg cagagccagc cgtccggcat 12120  
taactcctcg gacgattgga cccaggccat gcaacgcata atggcgctga cgaccgcaa 12180  
tccgaagcc tttagacagc agcctcaggc caaccgactc tcggccatcc tggaggccgt 12240  
ggtgccctcg cgctgaacc ccacgcacga gaaggtgctg gccatcgtga acgcgctggt 12300  
ggagaacaag gccatccgcg gcgacgaggc cgggctggtg tacaacgcgc tgctggagcg 12360  
cgtggcccg cacaacagca ccaacgtgca gacgaacctg gaccgcatgg tgaccgacgt 12420  
gcgcgaggcg gtgtcgcagc gcgagcgggt ccaccgcgag tcgaacctgg gctccatggt 12480  
ggcgctgaac gccttcctga gcacgcagcc cgccaacgtg ccccggggccc aggaggacta 12540  
caccaacttc atcagcgcg tgcggtgat ggtggccgag gtgccccaga gcgaggtgta 12600  
ccagtcgggg ccgactact tcttcagac cagtcgccag ggcttgca cgtgaacct 12660  
gagccaggct ttcaagaact tgcagggact gtggggcgct caggccccgg tcggggaccg 12720  
cgcgacggtg tcgagcctgc tgacgccgaa ctgcgcctg ctgctgctgc tgggtggcgcc 12780  
cttcacggac agcggcagcg tgagccgcga ctctacctg ggctacctgc ttaacctgta 12840  
ccgcgaggcc atcgggcagg cgcacgtgga cgagcagacc taccaggaga tcacccacgt 12900  
gagccgcgcg ctgggcccagg aggaccggg caacctggag gccaccctga acttcctgct 12960  
gaccaaccgg tcgcagaaga tcccgcccca gtacgcgctg agcaccgagg aggagcgcat 13020  
cctgcgctac gtgcagcaga gcgtggggct gttcctgatg caggaggggg ccacgcccag 13080  
cgccgcgctc gacatgaccg cgcgcaacat ggagcccagc atgtacgccc gcaaccgccc 13140  
gttcatcaat aagctgatgg actacttgca tcgggcggcc gccatgaact cggactactt 13200  
taccaacgcc atcttgaacc cgcactggct cccgcccggc ggggttctaca cgggcgagta 13260  
cgacatgccc gacccaacg acgggttctt gtgggacgac gtggacagca gcgtgttctc 13320  
gccgcgcccc accaccacca ccgtgtggaa gaaagagggc ggggaccggc ggccgtcctc 13380  
ggcgctgtcc ggtcgcgcg gtgctgccgc ggcggtgccc gaggccgcca gcccttccc 13440  
gagcctgccc ttttcgtga acagcgtgcg cagcagcgag ctgggtcggc tgacgcggcc 13500  
gcgcctgctg ggcgaggagg agtacctgaa cgactccttg cttcgggccc agcgcgagaa 13560  
gaacttcccc aataacggga tagagagcct ggtggacaag atgagccgct ggaagacgta 13620

cgcgcacgag cacagggacg agccccgagc tagcagcagc accggcgcca cccgtagacg 13680  
ccagcggcac gacaggcagc ggggtctggt gtgggacgat gaggattccg ccgacgacag 13740  
cagcgtgttg gacttggggtg ggagtggtgg tggttaacccg ttcgctcacc tgcgcccccg 13800  
tatcgggagc ctgatgtaag aatctgaaaa aataaaagac ggtactcacc aaggccatgg 13860  
cgaccagcgt gcgttcttct ctgttggttg tagtagtatg atgaggcgcg tgtaccgga 13920  
gggtcctcct cctcgtacg agagcgtgat gcagcaggcg gtggcggcgg cgatgcagcc 13980  
cccgtggag gcgccttacg tgcccccgcg gtacctggcg cctacggagg ggcggaacag 14040  
cattcggtac tcggagctgg cacccttgta cgataccacc cggttgtacc tggaggacaa 14100  
caagtcggcg gacatcgctt cgctgaacta ccagaacgac cacagcaact tcctgaccac 14160  
cgtggtgcag aacaacgatt tcacccccac ggaggccagc acccagacca tcaactttga 14220  
cgagcgctcg cgggtggggcg gccagctgaa aaccatcatg cacaccaaca tgcccaacgt 14280  
gaacgagttc atgtacagca acaagttcaa ggcgcgggtg atggtctcgc gcaagacccc 14340  
caacggggtc acagtaacag atggtagtca ggacgagctg acctacgagt gggaggagtt 14400  
tgagctgccc gagggcaact tctcggtgac catgaccatc gatctgatga acaacgccat 14460  
catcgacaac tacttggcgg tggggcgcca gaacggggtg ctggagagcg acatcggcgt 14520  
gaagttcgac acgcgcaact tccggtggg ctgggacccc gtgaccgagc tggatgatgcc 14580  
gggcgtgtac accaacgagg ccttccaccc cgacatcgct ctgctgccc gctgcggcgt 14640  
ggacttcacc gagagccgcc tcagcaacct gctgggcacg cgcaagcggc agcccttcca 14700  
ggagggcttc cagatcctgt acgaggacct ggaggggggc aacatccccg cgctgctgga 14760  
cgtggacgcc tacgagaaaa gcaaggagga tagcgccgcc gcggcgaccg cagccgtggc 14820  
caccgcctct accgaggtgc ggggcgataa ttttgtagc gccgcgacac tggcagcggc 14880  
cgaggcggct gaaaccgaaa gtaagatagt gatccagccg gtggagaagg acagcaagga 14940  
gaggagctac aacgtgctcg cggacaagaa aaacaccgcc taccgcagct ggtacctggc 15000  
ctacaactac ggcgaccccg agaaggcggt gcgctcctgg acgctgctca ccacctcgga 15060  
cgtcacctgc ggcgtggagc aagtctactg gtcgtgccc gacatgatgc aagaccgggt 15120  
caccttccgc tccacgcgtc aagttagcaa ctaccgggtg gtgggcgccg agctcctgcc 15180  
cgtctactcc aagagcttct tcaacgagca ggccgtctac tcgcagcagc tgcgcgctt 15240  
cacctcgctc acgcacgtct tcaaccgctt ccccgagaac cagatcctcg ttcgcccgcc 15300  
cgcgcccacc attaccaccg tcagtgaaaa cgcttctgct ctacacagatc acgggaccct 15360  
gccgtgctgc agcagtatcc ggggagtcca gcgcgtgacc gtcactgacg ccagacgccg 15420  
cacctgcccc tacgtctaca aggccctggg cgtagtcgcg ccgcgcgtcc tctcgagccg 15480  
caccttctaa aaaatgtcca ttctcatctc gccagtaat aacaccggtt ggggcctgcg 15540  
cgcgcccagc aagatgtacg gaggcgctcg ccaacgctcc acgcaacacc ccgtgcgcgt 15600  
gcgcgggcac ttccgcgctc cctggggcg cctcaagggc cgctgctgct cgcgaccac 15660

cgctcgacgac gtgatcgacc aggtggtggc cgacgcgcgc aactacacgc ccgccgccgc 15720  
 gcccgtctcc accgtggacg ccgtcatcga cagcgtggtg gccgacgcgc gccggtacgc 15780  
 ccgcgccaag agccggcggc ggcgcatcgc ccggcggcac cggagcacc ccgccatgcg 15840  
 cgcggcgcga gccttgctgc gcagggccag gcgcacggga cgagggcca tgctcagggc 15900  
 ggccagacgc gcggcctccg gcagcagcag gcggcgagg acccgacagc gcgcggccac 15960  
 ggcggcggcg gcggccatcg ccagcatgtc ccgccgcgg cgcggaacg tgtactgggt 16020  
 gcgcgacgcc gccaccggtg tgcgcgtgcc cgtgcgcacc cccccccctc gcaactgaag 16080  
 atgctgactt cgcgatgttg atgtgtccca gcggcgagga ggatgtccaa gcgcaaattc 16140  
 aaggaagaga tgctccaggt catcgcgcct gagatctacg gccggcgggc ggtgaaggag 16200  
 gaaagaaagc cccgcaaact gaagcgggtc aaaaaggaca aaaaggagga ggaagatgtg 16260  
 gacggactgg tggagtttgt gcgcgagttc gccccccggc ggcgctgca gtggcgcggg 16320  
 cgaaagtga aaccggtgct gcgacccggc accacggtgg tcttcacgcc cggcgagcgt 16380  
 tccggtccg cctccaagcg ctctacgac gaggtgtacg gggacgagga catcctcgag 16440  
 caggcgccg aacgtctggg cgagtttgtt tacggcaagc gcagccgcc cgcgcccttg 16500  
 aaagaggagg cgggtgtccat cccgctggac cacggcaacc ccacgccgag cctgaagccg 16560  
 gtgaccctgc agcaggtgct gcctggtgcg gcgccgcgc ggggcttcaa gcgcgagggc 16620  
 ggcgaggatc tgtaccgac catgcagctg atggtgcccc agcgcagaa gctggaggac 16680  
 gtgctggagc acatgaagggt ggaccccgag gtgcagccc aggtcaagggt gcggccatc 16740  
 aagcaggtgg ccccgggcct gggcggtgcag accgtggaca tcaagatccc cacggagccc 16800  
 atggaaacgc agaccgagcc cgtgaagccc agcaccagca ccatggagggt gcagacggat 16860  
 ccctggatgc cggcaccggc ttccaccacc cgccaagac gcaagtacgg cgcgccagc 16920  
 ctgctgatgc ccaactacgc gctgcacct tccatcatcc ccacgccggg ctaccgcggc 16980  
 acgcgttct accgcggcta caccagcagc cgccgccga agaccaccac ccgccgccgc 17040  
 cgctgctgca cccgccgag cagcaccgcg acttccgcc cgccctggt gcggagagt 17100  
 taccgcagcg ggcgagacc tctgaccctg ccgcgcgcgc gctaccacc gagcatcgcc 17160  
 atttaactac cgctcctac ttgcagatat ggccctcaca tgccgcctcc gcgtcccat 17220  
 tacgggctac cgaggaagaa agccgcgcc tagaaggctg acggggaacg ggctgcgtcg 17280  
 ccatcaccac cggcgcggc gcgccatcag caagcggttg gggggagggt tcctgcccgc 17340  
 gctgatgccc atcatcgccg cggcgatcgg ggcgatcccc ggcatagctt ccgtggcggt 17400  
 gcaggcctct cagcgccact gagacacagc ttggaaaatt tgtaataaaa aatggactga 17460  
 cgctcctggt cctgtgatgt gtgttttttag atggaagaca tcaatttttc gtccctggca 17520  
 ccgcgacacg gcacgcggcc gtttatgggc acctggagcg acatcggcaa cagccaactg 17580  
 aacgggggcg cttcaattg gagcagctc tggagcggc ttaagaattt cgggtccacg 17640  
 ctcaaaacct atggcaacaa ggcgtggaac agcagcacag ggcaggcgct gagggaag 17700  
 ctgaaagagc agaacttcca gcagaagggt gtcgatggcc tggcctcggg catcaacggg 17760

gtggtggacc tggccaacca ggccgtgcag aaacagatca acagccgcct ggacgcggtc 17820  
ccgcccgcgg ggtccgtgga gatgccccag gtggaggagg agctgcctcc cctggacaag 17880  
cgcggcgaca agcgaccgcg tcccgacgcg gaggagacgc tgctgacgca cacggacgag 17940  
ccgccccgt acgaggaggc ggtgaaactg ggtctgccc ccacgcggcc cgtggcgctc 18000  
ctggccaccg ggtgctgaa acccagcagc agcagcagcc agcccgcgac cctggacttg 18060  
cctccgcctg cttcccgcgc ctccacagtg gctaagcccc tgccgcccgt ggccgtcgcg 18120  
tcgcgcgccc cccgaggccg cccccaggcg aactggcaga gcaactctgaa cagcatcgtg 18180  
ggtctgggag tgcaagtgt gaagcgcgcg cgtgctatt aaaagacact gtagcgctta 18240  
acttgcttgt ctgtgtgtat atgtatgtcc gccgaccaga aggaggagga agaggcgctg 18300  
cgccgagttg caagatggcc accccatcga tgctgcccc gtgggcgtac atgcacatcg 18360  
ccggacagga cgcttcggag tacctgagtc cgggtctggt gcagttcgcc cgcgccacag 18420  
acacctactt cagtctgggg aacaagttta ggaacccac ggtggcgccc acgcacgatg 18480  
tgaccaccga ccgcagccag cggctgacgc tgcgcttcgt gcccgaggac cgcgaggaca 18540  
acacctactc gtacaaagtg cgctacacgc tggccgtggg cgacaaccgc gtgctggaca 18600  
tggccagcac ctactttgac atccgcggcg tgctggatcg gggccctagc ttcaaaccct 18660  
actccggcac cgcttacaac agcctggctc ccaagggagc gcccaacact tgccagtggg 18720  
catataaagc tgatggtgat actggtacag aaaaaaccta tacatatgga aatgcgcctg 18780  
tgcaaggcat tagtattaca aaagatggta ttcaacttgg aactgacact gatgatcagc 18840  
ccatttatgc agataaaaact tatcaaccag agcctcaagt gggatgatgct gaatggcatg 18900  
acatcactgg tactgatgaa aaatatggag gcagagctct caagcctgac accaaaatga 18960  
agccctgcta tggttctttt gccaaagccta ccaataaaga aggaggctcag gcaaatgtga 19020  
aaaccgaaac aggcggtacc aaagaatatg acattgacat ggcattcttc gataatcgaa 19080  
gtgcagctgc ggctggcctg gccccagaaa ttgttttgta tactgagaat gtggatctgg 19140  
aaactccaga tactcatatt gtatacaagg cgggcacaga tgacagcagc tcttctatca 19200  
atgtgggtca gcagtccatg cccaacagac ccaactacat tggctttaga gacaacttta 19260  
tcgggctcat gtactacaac agcactggca acatgggcgt gctggctggg caggcctccc 19320  
agctgaatgc tgtggtggac ttgcaggaca gaaacactga actgtcctac cagctcttgc 19380  
ttgactctct gggcgacaga accaggtatt tcagtatgtg gaatcaggcg gtggacagct 19440  
atgaccccga tgtgcgcatt attgaaaatc acggtgtgga ggatgaactc cctaactatt 19500  
gcttccccct ggatgctgtg ggtagaactg atacttacca ggggaattaag gccaatggtg 19560  
ctgatcaaac cacctggacc aaagatgata ctgttaatga tgctaataa ttgggcaagg 19620  
gcaatccttt cgccatggag atcaacatcc aggcacacct gtggcggaac ttcctctacg 19680  
cgaacgtggc gctgtacctg cccgactcct acaagtacac gccggccaac atcacgctgc 19740  
cgaccaacac caacacctac gattacatga acggccgcgt ggtggcgccc tcgctggtgg 19800

acgcctacat caacatcggg gcgcgctggt cgctggaccc catggacaac gtcaaccctt 19860  
tcaaccacca ccgcaacgcy ggcctgcgct accgctccat gctcctgggc aacgggcygt 19920  
acgtgccctt ccacatccag gtgccccaaa agttcttcgc catcaagagc ctctgtctcc 19980  
tgcccgggtc ctacacctac gagtggaact tccgcaagga cgtcaacatg atcctgcaga 20040  
gtctccctcg caacgacctg cgcacggacg gggcctccat cgccttcacc agcatcaacc 20100  
tctacgccac cttcttcccc atggcgcaaca acaccgcctc cacgctcgag gccatgctgc 20160  
gcaacgacac caacgaccag tccttcaacg actacctctc ggcgggcaac atgctctacc 20220  
ccatcccggc caacgccacc aacgtgccc tctccatccc ctgcgcgaac tgggcccgtt 20280  
tccgcggtg gtcttctcag cgcctcaaga cccgcgagac gccctcgtc ggctccgggt 20340  
tcgaccccta cttcgtctac tcgggctcca tcccctacct cgacggcacc ttctacctca 20400  
accacacctt caagaaggct tccatcacct tcgactctc cgtcagctgg cccggcaacg 20460  
accgcctcct gacgcccac gagttcgaaa tcaagcgcac cgtcgacgga gaggggtaca 20520  
acgtggccca gtgcaacatg accaaggact ggttcctggt ccagatgctg gccactaca 20580  
acatcggcta ccagggttc tacgtgccc agggctacaa ggaccgcatg tactcttct 20640  
tccgcaactt ccagcccatg agccgccagg tcgtggacga ggtcaactac aaggactacc 20700  
aggccgtcac cctggcctac cagcacaaca actcgggctt cgtcggctac ctgcgcacca 20760  
ccatgcgcca gggacagccc taccgcca actacccta cccgctcatc ggcaagagcg 20820  
ccgtcgccag cgtcaccag aaaaagtcc tctgcgaccg ggtcatgtgg cgcacccct 20880  
tctccagcaa cttcatgtcc atgggcgcgc tcaccgacct cggccagaac atgctctacg 20940  
ccaactccgc ccacgcgcta gacatgaatt tcgaagtcga ccccatggat gagtccaccc 21000  
ttctctatgt tgtcttcgaa gtcttcgacg tcgtccgagt gcaccagccc caccgcygcg 21060  
tcacgaggc cgtctacctg cgcacgccct tctcggccgg caacgccacc acctaagccc 21120  
cgctcttgct tcttgcaaga tgacggcctg tgccgggtcc ggcgagcagg agctcagggc 21180  
catcctccgc gacctgggt gcgggccctg cttcctgggc accttcgaca agcgcttccc 21240  
gggattcatg gccccgcaca agctggcctg cgccatcgtc aacacggccg gccgcgagac 21300  
cgggggcyag cactggctgg cttcgcctg gaaccgcgc tcccacacct gctaccttt 21360  
cgacccttc gggttctcgg acgagcgct caagcagatc taccagttcg agtacgaggg 21420  
cctgctgcgc cgcagcgcct tggccaccga ggaccgctgc gtcaccctgg aaaagtccac 21480  
ccagaccgtg cagggtccgc gtcggccgc ctgcgggtc ttctgctgca tgttcctgca 21540  
cgccttcgt cactggcccc accgccccat ggacaagaac cccaccatga acttgctgac 21600  
gggggtgccc aacggcatgc tcagtcgcc ccaggtggaa cccaccctgc gccgcaacca 21660  
ggaggcgtc taccgcttc tcaacgcca ctccgcctac tttcgtccc accgcgcgcg 21720  
catcgagaag gccaccgct tcgaccgat gaatcaagac atgtaaaccg tgtgtgtatg 21780  
tgaatgctt attcataata aacagcacat gtttatgcca cttttctga ggctctgact 21840  
ttatttagaa atcgaagggg ttctgccggc tctcggcgtg cccgcgggc agggatacgt 21900

tgcggaactg gtacttgggc agccacttga actcggggat cagcagcttc ggcacgggga 21960  
ggtcggggaa cgagtcgctc cacagcttgc gcgtgagttg cagggcgccc agcaggtcgg 22020  
gcgcggagat cttgaaatcg cagttgggac ccgcgttctg cgcgcgggag ttgcggtaca 22080  
cggggttgca gcaactggaac accatcaggg ccgggtgctt cacgctcgcc agcaccgtcg 22140  
cgtcggtgat gccctccacg tccagatcct cggcgttggc catcccgaag ggggtcatct 22200  
tgcaggtctg ccgccccatg ctgggcacgc agccgggctt gtggttgcaa tcgcagtgca 22260  
gggggatcag catcatctgg gcctgctcgg agctcatgcc cgggtacatg gccttcatga 22320  
aagcctccag ctggcggaag gcctgctcgg ccttgccgcc ctcggtgaag aagaccccg 22380  
aggacttgct agagaactgg ttggtggcgc agccggcgctc gtgcacgcag cagcgcgct 22440  
cgttgttggc cagctgcacc acgctgcgcc ccagcgggtt ctgggtgatc ttggcccgg 22500  
cggggttctc cttcagcgcg cgctgcccgt tctcgctcgc cacatccatc tcgatcgtgt 22560  
gtccttctg gatcatcacg gtcccgtgca ggcacgcag cttgccctcg gcctcgggtgc 22620  
accctgtag ccacagcgcg cagccgggtgc actcccagtt cttgtgggag atctgggagt 22680  
gcgagtgcac gaagccctgc aggaagcggc ccatcatcgt ggtcagggc ttgttgctgg 22740  
tgaaggtcag cgggatgccg cgggtctcct cgttcacata caggtggcag atgcggcggt 22800  
acacctcgcc ctgctcgggc atcagctgga aggcggactt caggtcgctc tccacgcggt 22860  
accggtccat cagcagcgctc atgacttcca tgcccttctc ccaggccgag acgatcggca 22920  
ggctcagggg gttcttcacc gccgttgta tcttagtcgc cgccgctgag gtcaggggg 22980  
cgttctcgtc caggggtctc aacctcgtc tgccgtcctt ctcggtgatg cgcacgggg 23040  
gaaagctgaa gcccacggcc gccagctcct cctcggcctg cctttcgtcc tcgctgtcct 23100  
ggctgatgtc ttgcaaaggc acatgcttgg tcttgcgggg tttctttttg ggcggcagag 23160  
gcggcgggcg agacgtgctg ggcgagcgcg agttctcgt caccacgact atttcttctt 23220  
cttggccgtc gtccgagacc acgcggcggt aggcattgcct cttctggggc agaggcgag 23280  
gcgacgggct ctgcggttc ggcggggcg gcagagacc cttccgcgt tcgggggtgc 23340  
gtccttggcg gcgctgctt gactgacttc ctccgcggcc ggccatttg ttctcctagg 23400  
gagcaacaag catggagact cagccatcgt cgccaacatc gccatctgcc cccgccgccg 23460  
ccgacgagaa ccagcagcag aatgaaagct taaccgcccc gccgcccagc cccacctccg 23520  
acgccgccgc ggccccagac atgcaagaga tggaggaatc catcgagatt gacctgggct 23580  
acgtgacgcc cgcgagcac gaggaggagc tggcagcgcg cttttcagcc ccggaagaga 23640  
accaccaaga gcagccagag caggaagcag agagcgagca gcagcaggct gggctcgagc 23700  
atggcgacta cctgagcggg gcagaggacg tgctcatcaa gcatctggcc cgccaatgca 23760  
tcatcgtcaa ggacgcgctg ctgcaccgcg ccgaggtgcc cctcagcgtg gcggagctca 23820  
gccgcgccta cgagcgcaac ctcttctcgc cgcgctgcc cccaagcgc cagcccaacg 23880  
gcacctgcga gcccaaccgc cgcctcaact tctaccgggt cttcgcggtg cccgaggccc 23940

tggccaccta	ccacctcttt	ttcaagaacc	aaaggatccc	cgtctcctgc	cgcgccaacc	24000
gcacccgcgc	cgacgccctg	ctcaacctgg	gtcccggcgc	ccgcctacct	gatatcgctt	24060
ccttggaaga	ggttcccaag	atcttcgagg	gtctgggcag	cgacgagact	cgggccgcga	24120
acgctctgca	aggaagcgga	gaggagcatg	agcaccacag	cgccctggtg	gagttggaag	24180
gcgacaacgc	gcgcctggcg	gtgctcaagc	gcacggtcga	gctgaccac	ttcgccctacc	24240
cggcgctcaa	cctgcccccc	aagggtcatga	gcgccgtcat	ggaccaggtg	ctcatcaagc	24300
gcgcctcgcc	cctctcggtg	gaggacatgc	aggacccga	gagctcgga	gagggcaagc	24360
ccgtggtcag	cgacgagcag	ctggcgcgct	ggctgggagc	gagtagcacc	ccccagagct	24420
tggaagagcg	gcgcaagctc	atgatggccg	tggctctggt	gaccgtggag	ctggagtgtc	24480
tgcgccgctt	cttcgccgac	gcagagaccc	tgcgcaaggt	cgaggagaac	ctgcactacc	24540
tcttcaggca	cgggtttgtg	cgccaggcct	gcaagatctc	caacgtggag	ctgaccaacc	24600
tggctctcta	catgggcatc	ctgcacgaga	accgcctggg	gcagaacgtg	ctgcacacca	24660
ccctgcgcgg	ggaggcccg	cgcgactaca	tccgcgactg	cgtctacctg	tacctctgcc	24720
acacctggca	gacgggcatg	ggcgtgtggc	agcagtgcct	ggaggagcag	aacctgaaag	24780
agctctgcaa	gctcctgcag	aagaacctga	aggccctgtg	gaccgggttc	gacgagcgca	24840
ccaccgcctc	ggacctggcc	gacctcatct	tccccgagcg	cctgcggctg	acgtgcgca	24900
acggactgcc	cgactttatg	agtcaaagca	tgttgcaaaa	ctttcgctct	ttcatcctcg	24960
aacgctccgg	gatcctgccc	gccacctgct	ccgcgctgcc	ctcggacttc	gtgccgctga	25020
ccttccgcga	gtgccccccg	ccgctctgga	gccactgcta	cctgctgcgc	ctggccaact	25080
acctggccta	ccactcgga	gtgatcgagg	acgtcagcgg	cgagggtctg	ctcgagtgcc	25140
actgccgctg	caacctctgc	acgccgcacc	gctccctggc	ctgcaacccc	cagctgctga	25200
gcgagaccca	gatcatcggc	accttcgagt	tgcaaggccc	cggcgagggc	aaggggggtc	25260
tgaactcac	cccggggctg	tggacctcgg	cctacttgcg	caagtctctg	cccaggagact	25320
accatccctt	cgagatcagg	ttctacgagg	accaatccca	gccgccaag	gccgaactgt	25380
cggcctgcgt	catcaccag	ggggccatcc	tggccaatt	gcaagccatc	cagaaatccc	25440
gccaagaatt	tctgctgaaa	aagggccacg	gggtctacct	ggacccccag	accggagagg	25500
agctcaaccc	cagcttcccc	caggatgccc	cgaggaaagca	gcaagaagct	gaaagtggag	25560
ctgccgccgc	cggaggatct	ggaggaagac	tgggagagca	gtcaggcaga	ggaggaggag	25620
atggaagact	gggacagcac	tcaggcagag	gaggacagcc	tgcaagacag	tctggaagac	25680
gaggtggagg	aggaggcaga	ggaagaagca	gccgccgcca	gaccgtcgtc	ctcggcggag	25740
aaagcaagca	gcacggatac	catctccgct	ccgggtcggg	gtcgcggcga	ccgggccac	25800
agtaggtggg	acgagaccgg	gcgcttcccc	aacccacca	cccagaccgg	taagaaggag	25860
cggcagggat	acaagtcctg	gcgggggcac	aaaaacgcca	tcgtctcctg	cttgcaagcc	25920
tgcgggggca	acatctcctt	caccgcgcgc	tacctgtctt	tccaccgcgg	ggtgaacttc	25980
ccccgcaaca	tcttgatta	ctaccgtcac	ctccacagcc	cctactactg	tttccaagaa	26040

gaggcagaaa cccagcagca gcagaaaacc agcggcagca gcagctagaa aatccacagc 26100  
ggcggcaggt ggactgagga tcgcagcgaa cgagccggcg cagaccggg agctgaggaa 26160  
ccgatcttt cccaccctct atgccatctt ccagcagagt cgggggcagg agcaggaact 26220  
gaaagtcaag aaccgttctc tgcgtcgtc caccgcagt tgtctgtatc acaagagcga 26280  
agaccaactt cagcgactc tcgaggacgc cgaggctctc ttcaacaagt actgcgcgct 26340  
cactcttaaa gagtagcccg cggccgccc cacacggaaa aaggcgggaa ttacgtcacc 26400  
acctgcgccc ttgcggcgac catcatcatg agcaaagaga ttcccacgcc ttacatgtgg 26460  
agctaccagc cccagatggg cctggccgcc ggcggccgcc aggactactc caccgcagt 26520  
aactgggtca gcgcccggcc cgcgatgatc tcacgggtga atgacatccg cggccgcca 26580  
aaccagatac tcctagaaca gtcagcgatc accgccacgc cccgccatca ccttaatccg 26640  
cgtaattggc ccgcccctt ggtgtaccag gaaattcccc agcccacgac cgtactactt 26700  
ccgcgagacg cccaggccga agtccagctg actaactcag gtgtccagct ggccggcggc 26760  
gccgccctgt gtcgtcaccg ccccgctcag ggtataaagc ggctgggtgat ccgaggcaga 26820  
ggcacacagc tcaacgacga ggtgggtgagc tcttcgctgg gtctgcgacc tgacggagtc 26880  
ttccaactcg ccggatcggg gagatcttcc ttacgcctc gtcaggccgt cctgactttg 26940  
gagagttcgt cctcgcagcc cgcgtcgggt ggcacggca ctctccagtt cgtggaggag 27000  
ttcactccct cgggtctactt caacccttc tccggctccc ccggccacta cccggacgag 27060  
ttcatccga acttcgacgc catcagcgag tcggtggacg gctacgattg aatgtcccat 27120  
ggtggcgag ctgacctagc tcggcttga cacctggacc actgcccg cttccgctgc 27180  
ttcgtcggg atctcgcca gtttgctac tttagctgc ccgaggagca ccctcagggc 27240  
ccggcccacg gagtgcggat catcgtcga gggggcctc actcccacct gcttcggatc 27300  
ttcagccagc gaccgatcct ggtcgagcg gagcaaggac agacccttct gaccctgtac 27360  
tgcattgca accaccccg cctgcatgaa agtctttgtt gtctgctgtg tactgagtat 27420  
aataaaagct gagatcagcg actactccg actcgattgt ggtgttcctg ctatcaaccg 27480  
gtccctgttc ttaccggga acgagaccga gctccagctt cagtgtgtaagc cccacaagaa 27540  
gtacctcacc tggctgttcc agggctccc gatcgccgtt gtcaaccact gcgacaacga 27600  
cggagtcttg ctgagcggcc ccgccaacct tactttttcc acccgagaa gcaagctcca 27660  
gtctttccaa ccttctctc cggggacctc tcagtgcgtc tcgggaccct gccatcacac 27720  
cttccacctg atcccgaata ccacagcgcc gctccccgct actaacaacc aaactaccca 27780  
ccatcgccac cgtcgcgacc tttctgaatc taacactacc acccacaccg gaggtgagct 27840  
ccgaggtcga ccaacctctg ggatttacta cggcccctgg gaggtggtgg ggttaatagc 27900  
gctaggccta gttgtgggtg ggcttttggc tctctgctac ctatacctcc cttgctgttc 27960  
gtacttagtg gtgctgtgtt gctggtttaa gaaatgggga agatcacct agtgagctgc 28020  
ggtgcgctgg tggcgggtgg ggtgttttcg attgtgggac tgggcggcgc ggctgtagtg 28080

aaggagaagg ccgatccctg cttgcatttc aatcccgaca attgccagct gagttttcag 28140  
cccgatggca atcgggtgcgc ggtgctgata aagtgcggat gggaaatgcga gaacgtgaga 28200  
atcgagtaca ataacaagac tcggaacaat actctcgcgt ccgtgtggca gcccggggac 28260  
cccgagtggg acaccgtctc tgtccccggt gctgacggct ccccgcgcac cgtgaacaat 28320  
actttcattt ttgcgcacat gtgcgacacg gtcatgtgga tgagcaagca gtacgatatg 28380  
tggcccccca cgaaggagaa catcgtgggtc ttctccatcg cttacagcgc gtgcacggcg 28440  
ctaatacccg ctatcgtgtg cctgagcatt cacatgctca tcgctattcg cccagaaaat 28500  
aatgccgaaa aagagaaaaca gccataacac gttttttcac acaccttttt cagaccatgg 28560  
cctctgttaa atttttgctt ttatttgcca gtctcattac tgttataagt aatgagaaac 28620  
tcactattta cattggcact aaccacactt tagacggaat tccaaaatcc tcatggtatt 28680  
gctattttga tcaagatcca gacttaacta tagaactgtg tggtacaag ggaaaaata 28740  
caagcattca ttttaattaac ttttaattgcg gagacaattt gaaattaatt aatatcacta 28800  
aagagtatgg aggtatgtat tactatgttg cagaaaataa caacatgcag ttttatgaag 28860  
ttactgtaac taatcccacc acacctagaa caacaacaac caccaccaca aaaactacac 28920  
ctgttaccac tatgcagctc actaccaata acatttttgc catgcgtcaa atggtcaaca 28980  
atagcactca acccacccca cccagtgagg aaattcccaa atccatgatt ggcattattg 29040  
ttgctgtagt ggtgtgcatg ttgatcatcg ccttgtgcat ggtgtactat gccttctgct 29100  
acagaaagca cagactgaac gacaagctgg aacacttact aagtgttgaa ttttaatttt 29160  
ttagaaccat gaagatccta ggccctttta ttttttctat cattacctct gctctatgca 29220  
attctgacaa tgaggacgtt actgtcgttg tcggaaccaa ttatacactg aaagggtccag 29280  
cgaagggtat gctttcgtgg tattgtggtt ttggaactga cgagcaacag acagagctct 29340  
gcaatgctca aaaaggcaaa acctcaaatt ctaaaatctc taattatcaa tgcaatggca 29400  
ctgacttagt actgctcaat gtcacgaaag catatgctgg cagctacacc tgccctggag 29460  
atgatactga gaacatgatt ttttacaag tggaagtggg tgatccact actccacctc 29520  
caccaccac aactactcac accacacaca cagaacaac cacagcagag gaggcagcaa 29580  
agttagcctt gcagggtcaa gacagttcat ttgttggcat taccctaca cctgatcagc 29640  
ggtgtccggg gctgctcgtc agcggcattg tcggtgtgct ttcgggatta gcagtcataa 29700  
tcactgcat gttcattttt gcttgtgct atagaaggct ttaccgacaa aaatcagacc 29760  
cactgctgaa cctctatggt taattttttc cagagccatg aaggcagtta gcactctagt 29820  
ttttgttct ttgattggca ctgttttttag tgtagcttt ttgaaacaaa tcaatgttac 29880  
tgagggggaa aatgtgacac tggtaggcgt agagggtgct caaaatacca cctggacaaa 29940  
attccatcta gatgggtgga aagaaaattg cacctggaat gtcagtactt atacatgtga 30000  
aggagttaat cttaccattg tcaatgtcag ccaaattcaa aagggttggg ttaaaggga 30060  
atctgttagt gtagcaata gtgggtacta taccagcat actcttatct atgacattat 30120  
agttatacca ctgcctacac ctgcccacc tagcactacc acacagacaa cccacactac 30180

acaaacaacc acatacagta catcaaatca gcctaccacc actacaacag cagagggttgc 30240  
 cagctcgtct ggggtccgag tggcattttt gatgttggcc ccatctagca gtcccactgc 30300  
 tagtaccaat gagcagacta ctgaattttt gtccactgtc gagagccaca ccacagctac 30360  
 ctcgagtgcc ttctctagca ccgccaatct atcctcgctt tcctctacac caatcagtcc 30420  
 cgctactact cctacccccg ctattctccc cactcccctg aagcaaacag acggcgacat 30480  
 gcaatggcag atcacctgc tcattgtgat cgggttggtc atcctggccg tgttgctcta 30540  
 ctacatcttc tgccgccgca ttcccaacgc gcaccgcaag ccggcctaca agcccatcgt 30600  
 tgtcgggcag ccggagccgc ttcaggtgga aggggggtcta aggaatcttc tcttctcttt 30660  
 tacagtatgg tgattgaatt atgattccta gacaaatctt gatcactatt cttatctgcc 30720  
 tcctccaagt ctgtgccacc ctgctctggg tggccaacgc cagtccagac tgtattgggc 30780  
 ccttcgctc ctacgtgctc ttgcttca tcacctgcat ctgctgctgt agcatagtct 30840  
 gcctgcttat caccttcttc cagttcattg actggatctt tgtgctgcat gcctacctgc 30900  
 gccaccaccc ccagtaccgc gaccagcgag tggcgcggt gctcaggatc ctctgataag 30960  
 catgcgggct ctgctacttc tcgcttctt gctgttagtg ctccccgct ccgtcgaccc 31020  
 ccggaccccc acccagctcc ccgaggaggt ccgcaaatgc aaattccaag aaccctggaa 31080  
 attcctcaaa tgctaccgcc aaaaatcaga catgcatccc agctggatca tgatcattgg 31140  
 gatcgtgaac attctggcct gcaccctcat ctctttgtg atttaccct gctttgactt 31200  
 tggttggaac tcgccagagg cgctctatct ccgcctgaa cctgacacac caccacagca 31260  
 acctcaggca cagcactac caccaccacc acagcctagg ccacaatata tgcccatatt 31320  
 agactatgag gccgagccac agcgacccat gctccccgct attagttact tcaatctaac 31380  
 cggcgagat gactgaccca ctggccaaca acaacgtcaa cgaccttctc ctggacatgg 31440  
 acggccgcgc ctcgagcag cgactcgccc aacttcgcat tcgccagcag caggagagag 31500  
 ccgtcaagga gctgcaggac ggcatagcc tccaccagt caagaaaggc atcttctgcc 31560  
 tggtgaaaca ggccaagatc tcctacgagg tcaccagac cgaccatcgc ctctcctacg 31620  
 agtcctgca gcagcgccag aagttcacct gcttggtcgg agtcaacccc atcgtcatca 31680  
 cccagcagtc gggcgatacc aaggggtgca tccactgctc ctgcgactcc cccgactgcg 31740  
 tccacactct gatcaagacc ctctgcggcc tcgcgacct cctccccatg aactaatcac 31800  
 ccccttatcc agtgaaataa agatcatatt gatgatttga gtttaataaa aataaagaat 31860  
 cacttacttg aaatctgata ccaggctctt gtccatgttt tctgccaaca ccacttact 31920  
 cccctcttcc cagctctggt actgcaggcc ccggcgggct gcaaacttcc tccacaccct 31980  
 gaaggggatg tcaaatcct cctgtccctc aatcttcatt ttatcttcta tcagatgtcc 32040  
 aaaaagcgcg tccgggtgga tgatgacttc gaccccgctt acccctacga tgcagacaac 32100  
 gcaccgaccg tgcccttcat caaccccccc ttcgtctctt cagatggatt ccaagagaag 32160  
 cccctggggg tgctgtccct gcgtctggcc gatcccgta ccaccaagaa cggggaaatc 32220

accctcaagc tgggagatgg ggtggacctc gactcctcgg gaaaactcat ctccaacacg 32280  
gccaccaagg ccgccgcccc tctcagtttt tccaacaaca ccatttccct taacatggat 32340  
accccttttt acaacaacaa tggaaagtta ggcatgaaag tctactgctcc actgaagata 32400  
ctagacacag acttgctaaa aacacttggt gtagcttatg gacaaggttt aggaacaaac 32460  
accactgggtg cccttggtgc ccaactagca tccccacttg cttttgatag caatagcaaa 32520  
attgccctta atttaggcaa tggaccattg aaagtggatg caaatagact gaacatcaat 32580  
tgcaatagag gactctatgt tactaccaca aaagatgcac tggaagccaa tataagttgg 32640  
gctaattgcta tgacatttat aggaaatgcc atgggtgtca atattgatac acaaaaaggc 32700  
ttgcaatttg gcaccactag taccgtcgca gatgttaaaa acgcttacc catacaaatc 32760  
aaacttggag ctggtctcac atttgacagc acaggtgcaa ttgttgcag gaacaaagat 32820  
gatgacaagc ttacactatg gaccacagcc gaccctctc caaattgtca catatattct 32880  
gaaaaggatg ctaagcttac actttgcttg acaaagtgtg gcagtcagat tctgggcact 32940  
gtttccctca tagctgttga tactggcagt ttaaattcca taacaggaac agtaaccact 33000  
gctcttgtct cacttaaatt cgatgcaaat ggagttttgc aaagcagctc aactactagac 33060  
tcagactatt ggaatttcag acaggagat gttacacctg ctgaagccta tactaatgct 33120  
ataggtttca tgcccaatct aaaagcatac cctaaaaaca caagtggagc tgcaaaaagt 33180  
cacattgttg ggaaagtgt cctacatggg gatacaggca aaccactgga cctcattatt 33240  
actttcaatg aaacaagtga tgaatcttgc acttactgta ttaactttca atggcagttg 33300  
ggggctgatc aatataaaaa tgaaacactt gccgtcagtt cattcacctt ttcctatatt 33360  
gctaaagaat aaacccctct ctgtacccca tctctgtcta tggaaaaaac tctgaaacac 33420  
aaaataaaat aaagttcaag tgttttattg attcaacagt ttacaggat tcgagcagtt 33480  
atttttcctc caccctccca ggacatggaa tacaccacc tctcccccg cacagccttg 33540  
aacatctgaa tgccattggt gatggacatg cttttggtct ccacgttcca cacagtttca 33600  
gagcgagcca gtctcgggtc ggtcaggag atgaaaccct ccgggcactc ccgcatctgc 33660  
acctcacagc tcaacagctg aggattgtcc tcggtggtcg ggatcacggt tatctggaag 33720  
aagcagaaga gcggcggtgg gaatcatagt ccgcgaacgg gatcggccgg tgggtgtcgca 33780  
tcaggccccg cagcagtcgc tgtcgccgcc gctccgtcaa gctgctgctc agggggtccg 33840  
ggtccaggga ctccctcagc atgatgcca cgccctcag catcagtcgt ctggtgcggc 33900  
gggcgcagca gcgcatgcgg atctcgctca ggtcgctgca gtacgtgcaa cacaggacca 33960  
ccaggttggt caacagtcca tagttcaaca cgctccagcc gaaactcatc gcgggaagga 34020  
tgctaccac gtggccgtcg taccagatcc tcaggtaaata caagtggcg cccctccaga 34080  
acacgtgcc catgtacatg atctccttgg gcatgtggcg gttcaccacc tcccggtagc 34140  
acatcaccct ctggttgaac atgcagcccc ggatgatcct gcggaaccac agggccagca 34200  
ccgccccgcc cgccatgcag cgaagagacc ccgggtcccg acaatggcaa tggaggaccc 34260  
accgctcgta ccggtggatc atctgggagc tgaacaagtc tatgttggca cagcacaggc 34320

atatgctcat gcatctcttc agcactctca gctcctcggg ggtcaaaacc atatcccagg 34380  
gcacggggaa ctcttgacagg acagcgaacc ccgcagaaca gggcaatcct cgcacataac 34440  
ttacattgtg catggacagg gtatcgcaat caggcagcac cgggtgatcc tccaccagag 34500  
aagcgcggtt ctcggtctcc tcacagcgtg gtaagggggc cggccgatac ggggtgatggc 34560  
gggacgcggc tgatcgtgtt cgcgaccgtg ttatgatgca gttgctttcg gacattttcg 34620  
tacttgctgt agcagaacct ggtccggggc ctgcacaccg atcgccggcg gcggtcccgg 34680  
cgcttggaac gctcgggtgtt gaagtgttaa aacagccact ctctcagacc gtgcagcaga 34740  
tctagggcct caggagtgtg gaagatccca tcatgcctga tggctctaata cacatcgacc 34800  
accgtggaat gggccagacc cagccagatg atgcaatttt gttgggtttc ggtgacggcg 34860  
ggggagggaa gaacaggaag aaccatgatt aacttttaata ccaaacggtc tcggagcact 34920  
tcaaaatgaa gatcgcgagg atggcacctc tcgccccgc tgtgttggtg gaaaataaca 34980  
gccagggtcaa aggtgatacg gttctcgaga tgttccacgg tggcttccag caaagcctcc 35040  
acgcgcacat ccagaaacaa gacaatagcg aaagcgggag ggttctctaa ttctcaatc 35100  
atcatgttac actcctgcac catccccaga taattttcat ttttccagcc ttgaatgatt 35160  
cgaactagtt cctgaggtaa atccaagcca gccatgataa agagctcgcg cagagcgccc 35220  
tccaccggca ttcttaagca caccctcata attccaagat attctgctcc tggttcacct 35280  
gcagcagatt gacaagcgga atatcaaaat ctctgccgcg atccctaagc tcctccctca 35340  
gcaataactg taagtactct ttcatatcct ctccgaaatt tttagccata ggaccaccag 35400  
gaataagatt agggcaagcc acagtacaga taaaccgaag tcctccccag tgagcattgc 35460  
caaatgcaag actgctataa gcatgctggc tagaccgggt gatatcttcc agataactgg 35520  
acagaaaatc gcccaggcaa tttttaagaa aatcaacaaa agaaaaatcc tccagggtgca 35580  
cgtttagagc ctcggaaca acgatggagt aaatgcaagc ggtgcgttcc agcatggtta 35640  
gttagctgat ctgtagaaaa aaacaaaaat gaacattaaa ccattgctagc ctggcgaaca 35700  
ggtgggtaaa tcgttctctc cagcaccagg caggccacgg ggtctccggc acgaccctcg 35760  
taaaaattgt cgctatgatt gaaaaccatc acagagagac gttcccgggt gccggcgtga 35820  
atgattcgac aagatgaata ccccccgga acattggcgt ccgcgagtga aaaaaagcg 35880  
ccaaggaagc aataaggcac tacaatgctc agtctcaagt ccagcaaagc gatgccatgc 35940  
ggatgaagca caaattctc aggtgcgtac aaaatgtaat tactcccctc ctgcacaggc 36000  
agcaaagccc ccgatccctc caggtacaca tacaagcct cagcgtccat agcttaccga 36060  
gcagcagcac acaacaggcg caagagtcag agaaaggctg agctctaacc tgtccacccg 36120  
ctctctgctc aatatatagc ccagatctac actgacgtaa aggccaaagt ctaaaaatac 36180  
ccgccaaata atcacacag cccagcacac gccagaaac cggtgacaca ctcaaaaaaa 36240  
tacgcgcact tcctcaaagc cccaaactgc cgtcatttcc gggttccac gctacgtcat 36300  
caaaattcga ctttcaaatt ccgtcgaccg ttaaaaacgt cggccgcccc gccccctaagc 36360

gtcgcgcgtc ccgcagccaa tcaccgcccc gcatccccaa attcaaatac ctcatttgca 36420  
tattaacgcg caccaaaagt ttgaggtata ttattgatga tg 36462

<210> 2  
<211> 36604  
<212> DNA  
<213> chimpanzee adenovirus serotype Pan6

<400> 2  
catcatcaat aatatacctc aaacttttgg tgcgcgttaa tatgcaaag agctgtttga 60  
atgtggggag ggaggaaggt gattggctgc gggagcggcg accgttaggg gcggggcggg 120  
tgacgttttg atgacgtggc tatgagggcg agccggtttg caagttctcg tgggaaaagt 180  
gacgtcaaac gaggtgtggt ttgaacacgg aaatactcaa ttttcccgcg ctctctgaca 240  
ggaaatgagg tgtttctggg cggatgcaag tgaaaacggg ccattttcgc gcgaaaactg 300  
aatgaggaag tgaaaatctg agtaatttcg cgtttatggc agggaggagt atttgccgag 360  
ggccgagtag actttgaccg attacgtggg ggtttcgatt accgtatttt tcacctaaat 420  
ttccgcgtac ggtgtcaaag tccggtgttt ttacgtaggc gtcagctgat cgccagggtg 480  
tttaaacctg cgctctctag tcaagaggcc actcttgagt gccagcgagt agagttttct 540  
cctccgcgcc gcgagtcaga tctacacttt gaaagatgag gcacctgaga gacctgccc 600  
gtaatgtttt cctggctact gggaacgaga ttctggaatt ggtggtggac gccatgatgg 660  
gtgacgaccc tccagagccc cctaccccat ttgaggcgcc ttcgctgtac gatttgtagt 720  
atctggaggt ggatgtgccc gagagcgacc ctaacgagga ggcggtgaat gatttgttta 780  
gcgatgccgc gctgctggct gccgagcagg ctaatacgga ctctggctca gacagcgatt 840  
cctctctcca taccgagaga cccggcagag gtgagaaaaa gatccccgag cttaaagggg 900  
aagagctcga cctgcgctgc tatgaggaat gcttgctcc gagcgatgat gaggaggacg 960  
aggaggcgat tcgagctgcg gtgaaccagg gagtgaaaac tgcgggag agcttttagcc 1020  
tggaactgtcc tactctgccc ggacacggct gtaagtcttg tgaatttcac cgcatgaata 1080  
ctggagataa gaatgtgatg tgtgccctgt gctatatgag agcttacaac cattgtgttt 1140  
acagtaagtg tgattaactt tagttgggaa ggagaggggt gactgggtgc tgactgggtt 1200  
atztatgtat atgttttttt atgtgtaggt cccgtctctg acgtagatga gacccccact 1260  
tcagagtgc tttcatcacc ccagaaaatt ggcgaggaac cgcccgaaga tattattcat 1320  
agaccagttg cagtgcgagt caccgggcgg agagcagctg tggagagttt ggatgacttg 1380  
ctacaggggtg gggatgaacc tttggacttg tgtaccgga aacgccccag gcactaagtg 1440  
ccacacatgt gtgtttactt aaggtgatgt cagtatttat aggggtgtgga gtgcaataaa 1500  
atccgtgttg actttaagt cgtgttttat gactcagggg tggggactgt ggggtatataa 1560  
gcaggtgcag acctgtgtgg tcagttcaga gcaggactca tggagatctg gactgtcttg 1620  
gaagactttc accagactag acagttgcta gagaactcat cggagggagt ctcttacctg 1680  
tggagattct gcttcggtgg gcctctagct aagctagtct atagggccaa acaggattat 1740

aaggaacaat ttgaggatat tttgagagag tgtcctggta tttttgactc tctcaacttg	1800
ggccatcagt ctcacttttaa ccagagtatt ctgagagccc ttgacttttc tactcctggc	1860
agaactaccg ccgcggtagc cttttttgcc tttattcttg acaaattggag tcaagaaacc	1920
catttcagca gggattaccg tctggactgc ttagcagtag ctttgtggag aacatggagg	1980
tgccagcgcc tgaatgcaat ctccggctac ttgccagtac agccggtaga cacgctgagg	2040
atcctgagtc tccagtcacc ccaggaacac caacgccgcc agcagccgca gcaggagcag	2100
cagcaagagg aggaccgaga agagaacccg agagccggtc tggaccctcc ggtggcggag	2160
gaggaggagt agctgacttg tttcccagac tgcgccgggt gctgactagg tcttccagt	2220
gacgggagag ggggattaag cgggagaggc atgaggagac tagccacaga actgaactga	2280
ctgtcagtct gatgagccgc aggcgcccag aatcgggtgtg gtggcatgag gtgcagtcgc	2340
aggggataga tgaggtctcg gtgatgcatg agaaatattc cctagaacaa gtcaagactt	2400
gttggttga gcccaggat gattgggagg tagccatcag gaattatgcc aagctggctc	2460
tgaagccaga caagaagtac aagattacca aactgattaa tatcagaaat tcctgctaca	2520
tttcagggaa tggggccgag gtggagatca gtaccaggga gagggtggcc ttcagatgtt	2580
gtatgatgaa tatgtaccg ggggtggtgg gcatggaggg agtcaccttt atgaacacga	2640
ggttcaggg tgatgggtat aatggggtgg tctttatggc caacaccaag ctgacagtgc	2700
acggatgctc cttctttggc ttcaataaca tgtgcatcga ggccctggggc agtgtttcag	2760
tgaggggatg cagcttttca gccaaactgga tgggggtcgt gggcagaacc aagagcaagg	2820
tgtcagtga gaaatgcctg ttcgagaggt gccacctggg ggtgatgagc gagggcgaag	2880
ccaaagtcaa aactgcgcc tctaccgaga cgggctgctt tgtgctgac aagggcaatg	2940
cccaagtcaa gcataacatg atctgtgggg cctcggatga gcgaggctac cagatgctga	3000
cctgcgccgg tgggaacagc catatgctgg ccaccgtgca tgtggcctcg caccctcgca	3060
agacatggcc cgagttcgag cacaacgtca tgaccgctg caatgtgcac ctgggctccc	3120
gccgaggcat gttcatgccc taccagtga acatgcaatt tgtgaagggtg ctgctggagc	3180
ccgatgccat gtccagagt agcctgacgg ggggtgttga catgaatgtg gagctgtgga	3240
aaattctgag atatgatgaa tccaagacca ggtgccgggc ctgcgaatgc ggaggcaagc	3300
acgccaggct tcagcccgtg tgtgtggagg tgacggagga cctgcgaccc gatcatttgg	3360
tgttgtcctg caacgggacg gagttcggct ccagcgggga agaactcgac tagagtgagt	3420
agtgtttggg gctgggtgtg agcctgcatg aggggcagaa tgactaaaat ctgtggtttt	3480
ctgtgtgttg cagcagcatg agcggaagcg cctcctttga gggaggggta ttcagccctt	3540
atctgacggg gcgtctcccc tcctgggcgg gagtgctca gaatgtgatg ggatccacgg	3600
tggacggccg gcccgctgag cccgcgaact cttcaaccct gacctacgcg accctgagct	3660
cctcgtccgt ggacgcagct gccgccgag ctgctgcttc cgccgccagc gccgtgcgcg	3720
gaatggccct gggcgccggc tactacagct ctctggtggc caactcgagt tccaccaata	3780
atcccgccag cctgaacgag gagaagctgc tgctgctgat ggcccagctc gagggccctga	3840

cccagcgcct gggcgagctg acccagcagg tggctcagct gcaggcggag acgcgggccc 3900  
cggttgccac ggtgaaaacc aaataaaaaa tgaatcaata aataaacgga gacggttggt 3960  
gattttaaca cagagtcttg aatctttatt tgatttttcg cgcgcggtag gccctggacc 4020  
accggtctcg atcattgagc acccgggtga tcttttccag gacccggtag aggtgggctt 4080  
ggatgttgag gtacatgggc atgagcccg tccgggggtg gaggtagctc cattgcaggg 4140  
cctcgtgctc ggggatgggtg ttgtaaatca cccagtcata gcaggggcgc agggcggtgt 4200  
gctgcacgat gtccttgagg aggagactga tggccacggg cagccccctg gtgtaggtgt 4260  
tgacgaacct gttgagctgg gagggatgca tgcgggggga gatgagatgc atcttggcct 4320  
ggatcttgag attggcgatg ttcccgccca gatcccgccc ggggttcatg ttgtgcagga 4380  
ccaccagcac ggtgtatccg gtgcaactgg ggaatttgct atgcaacttg gaaggggaagg 4440  
cgtgaaagaa tttggagacg cccttgtagc cgcccaggtt ttccatgcac tcatccatga 4500  
tgatggcgat gggcccgtgg gcggcggcct gggcaaagac gtttcggggg tcggacacat 4560  
cgtagttgtg gtcctgggtg agctcgtcat aggccatttt aatgaatttg gggcggaggg 4620  
tgcccgactg ggggacgaag gtgccctcga tcccgggggc gtagttgcc tcgcagatct 4680  
gcatctccca ggccttgagc tcggaggggg ggatcatgtc cacctgcggg gcgatgaaaa 4740  
aaacggtttc cggggcgggg gagatgagct gggccgaaag caggttccgg agcagctggg 4800  
acttgccgca accggtgggg ccgtagatga ccccgatgac cggctgcagg tggtagttga 4860  
gggagagaca gctgccgtcc tcgcggagga ggggggccac ctcgttcatc atctcgcgca 4920  
catgcatgtt ctgcgcacg agttccgcca ggaggcgctc gccccccagc gagaggagct 4980  
cttgacgca ggcgaagttt ttcagcggct tgagtccgtc ggccatgggc attttggaga 5040  
gggtctgttg caagagttcc agacggtccc agagctcggg gatgtgctct agggcatctc 5100  
gatccagcag acctcctcgt ttcgcgggtt ggggcgactg cgggagtagg gcaccaggcg 5160  
atgggcgtcc agcgaggcca gggtcgggtc cttccagggc cgcagggtcc gcgtcagcgt 5220  
gggtctccgtc acggtgaagg ggtgcgcgcc gggctgggag cttgcgaggg tgcgcttcag 5280  
gctcatccgg ctggtcgaga accgctccc gtcggcgccc tgcgcgtcgg ccaggtagca 5340  
attgagcatg agttcgtagt tgagcgcctc ggccgcgtgg cccttggcgc ggagcttacc 5400  
tttggaaagtg tgtccgcaga cgggacagag gagggacttg agggcgtaga gcttgggggc 5460  
gaggaagacg gactcggggg cgtaggcgtc cgcgccgag ctggcgcaga cggctctcga 5520  
ctccacgagc caggtagggt cggggcggtt ggggtcaaaa acgaggtttc ctccgtgctt 5580  
tttgatgcgt ttcttacctc tggctccat gagctcgtgt ccccgctggg tgacaaagag 5640  
gctgtccgtg tcccgtaga ccgactttat gggccgggtc tcgagcgggg tgccgcggtc 5700  
ctcgtcgtag aggaacccc cccactccga gacgaaggcc cgggtccagg ccagcacgaa 5760  
ggaggccacg tgggaggggt agcggtcgtt gtccaccagc ggggtccacct tctccagggt 5820  
atgcaagcac atgtccccct cgtccacatc caggaagggtg attggcttgt aagtgtaggc 5880

cacgtgaccg	ggggtccccg	ccgggggggt	ataaaagggg	gcggggcccct	gctcgtcctc	5940
actgtcttcc	ggatcgctgt	ccaggagcgc	cagctgttgg	ggtaggtatt	ccctctcgaa	6000
ggcgggcatg	acctcggcac	tcaggttgtc	agtttctaga	aacgaggagg	atttgatatt	6060
gacggtgccg	ttggagacgc	ctttcatgag	cccctcgtcc	atttggtcag	aaaagacgat	6120
ctttttgttg	tcgagcttgg	tggcgaagga	gccgtagagg	gcgttggaga	gcagcttggc	6180
gatggagcgc	atggtctggt	tcttttcctt	gtcggcgcgc	tccttggcgg	cgatgttgag	6240
ctgcacgtac	tcgcgcgcc	cgcacttcca	ttcggggaag	acggtggtga	gctcgtcggg	6300
cacgattctg	acccgccagc	cgcggttgtg	cagggtgatg	aggtccacgc	tgggtggccac	6360
ctcgccgcgc	aggggctcgt	tgttccagca	gaggcgcccg	cccttgcgcg	agcagaaggg	6420
gggcagcggg	tccagcatga	gctcgtcggg	ggggtcggcg	tccacggtga	agatgccggg	6480
caggagctcg	gggtcgaagt	agctgatgca	ggtgcccaga	ttgtccagcg	ccgcttgcca	6540
gtcgcgcacg	gccagcgcgc	gctcgtaggg	gctgaggggc	gtgccccagg	gcatgggggtg	6600
cgtgagcgcg	gaggcgtaca	tgccgcagat	gtcgtagacg	tagaggggct	cctcgaggac	6660
gccgatgtag	gtggggtagc	agcggcccc	gcggatgctg	gcgcgcacgt	agtcgtacag	6720
ctcgtgcgag	ggcgcgagga	gccccgtgcc	gaggttggag	cgttgcggct	tttcggcgcg	6780
gtagacgatc	tggcggaaga	tggcgtggga	gttggaggag	atggtgggcc	tttgaagat	6840
gttgaagtgg	gcgtggggca	ggccgaccga	gtccctgatg	aagtgggctg	aggagtctctg	6900
cagcttggcg	acgagctcgg	cgttgacgag	gacgtccagg	gcgcagtagt	cgaggggtctc	6960
ttggatgatg	tcatacttga	gctggccctt	ctgcttccac	agctcgcggt	tgagaaggaa	7020
ctcttcgcgg	tccttccagt	actcttcgag	ggggaacccg	tcctgatcgg	cacggtaaga	7080
gcccaccatg	tagaactggt	tgacggcctt	gtaggcgcag	cagcccttct	ccacggggag	7140
ggcgtaagct	tgcgcgccct	tgcgcagggg	ggtgtgggtg	agggcgaagg	tgtcgcgcac	7200
catgaccttg	aggaactggt	gcttgaagtc	gaggctcgtc	cagccgccct	gctcccagag	7260
ttggaagtcc	gtgcgcttct	tgtaggcggg	gttaggcaaa	gcgaaagtaa	catcgttgaa	7320
gaggatcttg	cccgcgcggg	gcatgaagtt	gcgagtgatg	cggaaaggct	ggggcacctc	7380
ggcccggttg	ttgatgacct	gggcggcgag	gacgatctcg	tcgaagccgt	tgatgttggtg	7440
cccgcacgatg	tagagttcca	cgaatcgcgg	gcggcccttg	acgtggggca	gcttcttgag	7500
ctcgtcgtag	gtgagctcgg	cggggtcgct	gagcccgtgc	tgctcgaggg	cccagtcggc	7560
gacgtggggg	ttggcgctga	ggaagggaagt	ccagagatcc	acggccaggg	cggtctgcaa	7620
gcgggtcccgg	tactgacgga	actgttggcc	cacggccatt	ttttcggggg	tgacgcagta	7680
gaagggtcgcg	gggtcggcgt	gccagcggtc	ccacttgagc	tggagggcga	ggtcgtgggc	7740
gagctcgacg	agcggcgggg	ccccggagag	tttcatgacc	agcatgaagg	ggacgagctg	7800
cttgccgaag	gaccccatcc	aggtgtaggt	ttccacatcg	taggtgagga	agagcctttc	7860
ggtgcgagga	tgcgagccga	tggggaagaa	ctggatctcc	tgccaccagt	tggaggaatg	7920
gctgttgatg	tgatggaagt	agaaatgccg	acggcgcgcc	gagcactcgt	gcttgtgttt	7980

atacaagcgt	ccgcagtgt	cgcaacgctg	cacgggatgc	acgtgctgca	cgagctgtac	8040
ctgggttcct	ttggcgagga	atttcagtgg	gcagtggagc	gctggcggt	gcatctcgtg	8100
ctgtactacg	tcttgccat	cggcgtggcc	atcgtctgcc	tcgatgggtg	tcagtctgac	8160
gagcccgcg	gggaggcagg	tccagacctc	ggctcggacg	ggcggagag	cgaggacgag	8220
ggcgcgagg	ccggagctgt	ccagggctct	gagacgtgc	ggagtcaggt	cagtgggcag	8280
ggcgccgcg	cggttgactt	gcaggagctt	ttccagggcg	cgcgggaggt	ccagatggta	8340
cttgatctcc	acggcgccgt	tggtggctac	gtccacggct	tgcaggggtg	cgtgcccctg	8400
ggcgccacc	accgtgcccc	gtttcttctt	ggcgctgct	tccatgtcgg	tcagaagcgg	8460
ggcgaggac	gcgcgccggg	cggcaggggc	ggctcggggc	ccggaggcag	ggcgccgagg	8520
ggcacgtcgg	cgccgcgcgc	gggcaggttc	tggtactgcg	cccggagaag	actggcggtg	8580
gcgacgacgc	gacggttgac	gtcctggatc	tgacgcctct	gggtgaaggc	cacgggaccc	8640
gtgagtttga	acctgaaaga	gagttcgaca	gaatcaatct	cggtatcggt	gacggcgggc	8700
tgccgcagga	tctcttgac	gtcggccgag	ttgtcctggg	aggcgatctc	ggcatgaac	8760
tgctcgatct	cctcctcctg	aaggctctccg	cgcccgccgc	gctcgacggg	ggccgcgagg	8820
tcgttgagga	tgccggccat	gagctgcgag	aaggcggtca	tgccggcctc	gttccagacg	8880
cggtctgaga	ccacggctcc	gtcggggctc	gcgcgcgcga	tgaccacctg	ggcgagggtg	8940
agctcgacgt	ggcgctgaa	gaccgcgtag	ttgcagaggc	gctggtagag	gtagttgagc	9000
gtggtggcga	tgtgctcggg	gacgaagaag	tacatgatcc	agcgccggag	cgcatctcgc	9060
ctgacgtcgc	ccagggttcc	caagcgttcc	atggcctcgt	agaagtccac	ggcgaagttg	9120
aaaaactggg	agttgcgcgc	cgagacgggc	aactcctcct	ccagaagacg	gatgagctcg	9180
gcgatgggtg	cgcgcacctc	gcgctcgaag	gccccggggg	gctcctcttc	catctcctcc	9240
tcttcctcct	ccactaacat	ctcttctact	tcctcctcag	gaggcggtgg	cgggggaggg	9300
gccctgcgtc	gccggcgggc	cacgggcaga	cggtcgatga	agcgctcgat	ggtctccccg	9360
cgccggcgac	gcatggtctc	ggtgacggcg	cgcccgctct	cgcggggccg	cagcatgaag	9420
acgccgccgc	gcatctccag	gtggccgccg	ggggggtctc	cggtgggcag	ggagagggcg	9480
ctgacgatgc	atcttatcaa	ttgaccgcta	gggactccgc	gcaaggacct	gagcgtctcg	9540
agatccacgg	gatccgaaaa	ccgctgaacg	aaggcttcga	gccagtcgca	gtcgcaaggt	9600
aggctgagcc	cggtttcttg	ttcttcgggt	atttggtcgg	gaggcgggcg	ggcgatgctg	9660
ctggtgatga	agttgaagta	ggcggtcctg	agacggcgga	tggtggcgag	gagcaccagg	9720
tccttggggc	cggttgctg	gatgcgcaga	cggtcggcca	tgcccaggc	gtggtcctga	9780
cacctggcga	ggtccttgta	gtagtcctgc	atgagccgct	ccacgggcac	ctcctcctcg	9840
cccgcgcggc	cgtgcatgcg	cgtgagcccc	aaccgcgcgt	gcggctggac	gagcgccagg	9900
tcggcgacga	cgcgctcggg	gaggatggcc	tgctggatct	gggtgagggt	ggtctggaag	9960
tcgtcgaagt	cgacgaagcg	gtggtaggct	ccggtgttga	tggtgtagga	gcagttggcc	10020

atgacggacc agttgacggt ctggtggccg ggtcgcacga gctcgtggta cttgaggcgc 10080  
gagtaggcgc gcgtgtcgaa gatgtagtcg ttgcaggcgc gcacgaggta ctggtatccg 10140  
acgaggaagt gcggcggcgg ctggcggtag agcggccatc gctcggtggtc gggggcgccg 10200  
ggcgcgaggt cctcgagcat gaggcggtgg tagccgtaga tgtacctgga catccagggtg 10260  
atgccggcgg cgggtgggtgga ggcgcgcggg aactcgcgga cgcggttcca gatgttgccg 10320  
agcggcagga agtagttcat ggtggccgcg gtctggcccc tgaggcgcgc gcagtcgtgg 10380  
atgtcttaga catacgggca aaaacgaaag cggtcagcgg ctcgactccg tggcctggag 10440  
gctaagcgaa cgggttgggc tgcgcgtgta ccccggttcg aatctcgaat caggctggag 10500  
ccgcagctaa cgtggtactg gcaactccgt ctcgacccaa gcctgctaac gaaacctcca 10560  
ggatacggag gcgggtcggt ttttggcctt ggtcgtggt catgaaaaac tagtaagcgc 10620  
ggaaagcggc cgcccgcat ggctcgtgc cgtagtctgg agaaagaatc gccagggttg 10680  
cgttgccgtg tgccccggt cgagcctcag cgctcggcgc cggccggatt ccgcggctaa 10740  
cgtgggcgtg gctgccccgt cgtttccaag accccttagc cagccgactt ctccagttac 10800  
ggagcgagcc cctctttttt tttcttgtgt ttttgccaga tgcattccgt actgcggcag 10860  
atgcgcccc accctccacc acaaccgccc ctaccgcagc agcagcaaca gccggcgctt 10920  
ctgccccgc cccagcagca gccagccact accgcggcgg ccgccgtgag cggagccggc 10980  
gttcagtatg acctggcctt ggaagagggc gaggggctgg cgcggtggg ggcgtcgtcg 11040  
ccggagcggc acccgcgcgt gcagatgaaa agggacgctc gcgaggccta cgtgccaag 11100  
cagaacctgt tcagagacag gagcggcgag gagccgagg agatgcgcgc ctcccgcttc 11160  
cacgcggggc gggagctgcg gcgcggcctg gaccgaaagc ggggtgctgag ggacgaggat 11220  
ttcgaggcgg acgagctgac ggggatcagc cccgcgcgcg cgcacgtggc cgcgccaac 11280  
ctggtcacgg cgtacgagca gaccgtgaag gaggagagca acttccaaa atccttcaac 11340  
aaccacgtgc gcacgctgat cgcgcgcgag gaggtgacc tgggcctgat gcacctgtgg 11400  
gacctgctgg aggccatcgt gcagaacccc acgagcaagc cgctgacggc gcagctgttt 11460  
ctggtgggtg agcacagtgc ggacaacgag acgttcaggg aggcgctgct gaatatcacc 11520  
gagcccagg gccgctggct cctggacctg gtaacattt tgacagcat cgtggtgacg 11580  
gagcgcgggc tgccgctgtc cgagaagctg gcggccatca acttctcggg gctgagtctg 11640  
ggcaagtact acgctaggaa gatctacaag acccgtacg tgcccataga caaggagggtg 11700  
aagatcgacg ggttttacat gcgcattgacc ctgaaagtgc tgacctgag cgacgatctg 11760  
ggggtgtacc gcaacgacag gatgcaccgc gcggtgagcg ccagccgccg gcgcgagctg 11820  
agcgaccagg agctgatgca cagcctgcag cgggccctga ccggggccgg gaccgagggg 11880  
gagagctact ttgacatggg cgcggaacctg cgctggcagc ccagccgccg ggccttgga 11940  
gctgccggcg gttcccccta cgtggaggag gtggacgat aggaggagga gggcgagtac 12000  
ctggaagact gatggcgcga ccgtattttt gctagatgca gcaacagcca ccgccgccgc 12060  
ctcctgatcc cgcgatgcgg gcggcgctgc agagccagcc gtccggcatt aactcctcgg 12120

acgattggac ccaggccatg caacgcatca tggcgctgac gacccgcaat cccgaagcct 12180  
ttagacagca gcctcaggcc aaccggctct cgccatcct ggaggccgtg gtgccctcgc 12240  
gctcgaaccc cacgcacgag aaggtgctgg ccatcgtgaa cgcgctggtg gagaacaagg 12300  
ccatccgcgg tgacgaggcc gggctggtgt acaacgcgct gctggagcgc gtggcccgt 12360  
acaacagcac caacgtgcag acgaacctgg accgcatggt gaccgacgtg cgcgaggcgg 12420  
tgtcgcagcg cgagcgggtc caccgcgagt cgaacctggg ctccatggtg gcgctgaacg 12480  
ccttcctgag cacgcagccc gccaacgtgc cccggggcca ggaggactac accaacttca 12540  
tcagcgcgct gcggctgatg gtggccgagg tgccccagag cgaggtgtac cagtcggggc 12600  
cggactactt cttccagacc agtcgccagg gcttgacagc cgtgaacctg agccaggctt 12660  
tcaagaactt gcagggactg tggggcgctgc agggcccggt cggggaccgc gcgacggtgt 12720  
cgagcctgct gacgccgaac tcgcgctgc tgctgctgct ggtggcgccc ttcacggaca 12780  
gcggcagcgt gagccgcgac tcgtacctgg gctacctgct taacctgtac cgcgaggcca 12840  
tcggacaggc gcacgtggac gagcagacct accaggagat caccacgtg agccgcgcgc 12900  
tgggccagga ggacccgggc aacctggagg ccacctgaa cttcctgctg accaaccggt 12960  
cgcagaagat cccgccccag tacgcgctga gcaccgagga ggagcgcac ctgcgctacg 13020  
tgcagcagag cgtggggctg ttctgatgc agggggggc cacgcccagc gcggcgctcg 13080  
acatgaccgc gcgcaacatg gagcccagca tgtacgcccg caaccgcccg ttcacata 13140  
agctgatgga ctacttgcac cgggcggccg ccatgaactc ggactacttt accaacgcca 13200  
tcttgaaccc gactggctc ccgcccgcg ggttctacac gggcgagtac gacatgcccg 13260  
acccaacga cgggttctctg tgggacgacg tggacagcag cgtgttctcg ccgctccag 13320  
gaaccaatgc cgtgtggaag aaagagggcg gggaccggcg gccgtcctcg gcgctgtccg 13380  
gtcgcgcggg tgctgccgcg gcggtgcccg aggcgcgag ccccttcccg agcctgccct 13440  
tttcgctgaa cagcgtgcgc agcagcgagc tgggtcggct gacgcgaccg cgcctgctgg 13500  
gcgaggagga gtacctgaac gactccttgt tgaggcccga gcgcgagaag aacttcccc 13560  
ataacgggat agagagcctg gtggacaaga tgagccgctg gaagacgtac gcgcacgagc 13620  
acagggacga gccccgagct agcagcgag gcacccgtag acgccagcgg cacgacaggc 13680  
agcggggact ggtgtgggac gatgaggatt ccgccgacga cagcagcgtg ttggacttgg 13740  
gtgggagtg tggtaacccg ttcgctcacc tgcgccccg tatcgggcgc ctgatgtaag 13800  
aatctgaaaa aataaaagac ggtactcacc aaggccatgg cgaccagcgt gcgttcttct 13860  
ctgttgtttg tagtagtatg atgaggcgcg tgtaccgga gggtcctcct ccctcgtagc 13920  
agagcgtgat gcagcaggcg gtggcgggcg cgatgcagc cccgctggag gcgccttacg 13980  
tgcccccgcg gtacctggcg cctacggagg ggcggaacag cattcgttac tcggagctgg 14040  
cacccttgta cgataccacc cggttgtacc tgggtggaaa caagtcggca gacatcgct 14100  
cgctgaacta ccagaacgac cacagcaact tcctgaccac cgtggtgcag aacaacgatt 14160

tcacccccac ggaggccagc acccagacca tcaactttga cgagcgctcg cgggtggggcg 14220  
gccagctgaa aaccatcatg cacaccaaca tgcccaacgt gaacgagttc atgtacagca 14280  
acaagttcaa ggcgcgggtg atgggtctcg gcaagacccc caacgggggtg gatgatgatt 14340  
atgatggtag tcaggacgag ctgacctacg agtggggtgga gtttgagctg cccgagggca 14400  
acttctcggg gaccatgacc atcgatctga tgaacaacgc catcatcgac aactacttgg 14460  
cgggtggggcg gcagaacggg gtgctggaga gcgacatcgg cgtgaagttc gacacgcgca 14520  
acttccggct gggctgggac cccgtgaccg agctgggtgat gccgggctg tacaccaacg 14580  
aggccttcca ccccgacatc gtcctgctgc ccggctgcgg cgtggacttc accgagagcc 14640  
gcctcagcaa cctgctgggc atccgcaagc ggagccctt ccaggagggc ttccagatcc 14700  
tgtacgagga cctggagggg ggcaacatcc ccgcgctctt ggatgtcgaa gcctacgaga 14760  
aaagcaagga ggatagcacc gccgcggcga ccgcagccgt ggccaccgcc tctaccgagg 14820  
tgcggggcga taattttgct agcgctgcgg cagcgccga ggcggtgaa accgaaagta 14880  
agatagtcac ccagccggtg gagaaggaca gcaaggacag gagctacaac gtgctcgcgg 14940  
acaagaaaaa caccgcctac cgcagctggt acctggccta caactacggc gaccccgaga 15000  
agggcgctgc ctctgggacg ctgctacca cctcgacgt cacctgcggc gtggagcaag 15060  
tctactggtc gctgcccgac atgatgcaag acccggtcac cttccgctcc acgctcaag 15120  
ttagcaacta cccggtggtg ggcgcggagc tcctgcccgt ctactccaag agcttcttca 15180  
acgagcaggc cgtctactcg cagcagctgc gcgccttcac ctgctcacg cacgtcttca 15240  
accgcttccc cgagaaccag atcctcgtcc gcccgcccgc gccaccatt accaccgtca 15300  
gtgaaaacgt tcctgctctc acagatcacg ggaccctgcc gctgcgcagc agtatccggg 15360  
gagtccagcg cgtgaccgtc actgacgcca gacgccgcac ctgcccctac gtctacaagg 15420  
ccctgggctg agtcgcgccg cgcgtcctct cgagccgcac cttctaaaaa atgtccattc 15480  
tcattctgcc cagtaataac accggttggg gcctgcgcgc gccagcaag atgtacggag 15540  
gcgctcgcca acgctccacg caacaccccg tgcgctgcg cgggcacttc cgcgtccct 15600  
ggggcgccct caagggccgc gtgcgctcgc gcaccaccgt cgacgacgtg atcgaccagg 15660  
tggtggccga cgcgcgcaac tacacgcccg ccgccgcgcc cgtctccacc gtggacgccg 15720  
tcatcgacag cgtggtggcc gacgcgcgcc ggtacgcccg caccaagagc cggcggcggc 15780  
gcatcgcccg gcggcaccgg agcacccccg ccatgcgcgc ggcgcgagcc ttgctgcgca 15840  
gggccaggcg cacgggacgc agggccatgc tcaggcgggc cagacgcgcg gcctccggca 15900  
gcagcagcgc cggcaggacc cgcagacgcg cggccacggc ggcgggcgcg gccatcgcca 15960  
gcatgtcccg cccgcggcgc ggcaacgtgt actgggtgcg cgacgccgcc accggtgtgc 16020  
gcgtgcccgt gcgcacccgc cccctcgcga cttgaagatg ctgacttcgc gatgttgatg 16080  
tgtcccagcg gcgaggagga tgtccaagcg caaatacaag gaagagatgc tccaggtcat 16140  
cgcgcctgag atctacggcc ccgcggcgcc ggtgaaggag gaaagaaagc cccgcaaact 16200  
gaagcgggtc aaaaaggaca aaaaggagga ggaagatgac ggactgggtg agtttgtgcg 16260

cgagttcgcc ccccggcggc gcgtgcagtg gcgcgggcgg aaagtgaac cggtgctgcg 16320  
gcccggcacc acggtggtct tcacgcccgg cgagcggttcc ggctccgcct ccaagcgctc 16380  
ctacgacgag gtgtacgggg acgaggacat cctcgagcag gcggtcgagc gtctgggcga 16440  
gtttgcttac ggcaagcgca gccgccccgc gcccttgaaa gaggaggcgg tgtccatccc 16500  
gctggaccac ggcaacccca cgccgagcct gaagccgggtg accctgcagc aggtgctacc 16560  
gagcgcggcg ccgcgccggg gcttcaagcg cgagggcggc gaggatctgt acccgaccat 16620  
gcagctgatg gtgcccgaag gccagaagct ggaggacgtg ctggagcaca tgaagggtga 16680  
ccccgaggtg cagcccaggg tcaagggtgc gccatcaag cagggtggccc cgggcctggg 16740  
cgtgcagacc gtggacatca agatccccac ggagcccatg gaaacgcaga ccgagcccgt 16800  
gaagcccagc accagcacca tggagggtga gacggatccc tggatgccag caccagcttc 16860  
caccagcact cgccgaagac gcaagtacgg cgcgccagc ctgctgatgc ccaactacgc 16920  
gctgcatcct tccatcatcc ccacgccggg ctaccgcggc acgcgcttct accgcggcta 16980  
caccagcagc cgccgccgca agaccaccac ccgccccgt cgtcgcagcc gccgcagcag 17040  
caccgcgact tccgccttgg tgcggagagt gtatcgagc gggcgcgagc ctctgaccct 17100  
gccgcgcggc cgctaccacc cgagcatcgc catttaacta ccgcctccta cttgcagata 17160  
tgccctcac atgccgcctc cgcgtcccca ttacgggcta ccgaggaaga aagccgcgcc 17220  
gtagaaggct gacggggaac gggctgcgtc gccatcacca ccggcgggcg cgcgccatca 17280  
gcaagcggtt ggggggaggc ttcctgcccc cgctgatccc catcatcgcc gcggcgatcg 17340  
gggcgatccc cgccatagct tccgtggcgg tgcaggcctc tcagcgccac tgagacacaa 17400  
aaaagcatgg atttgtaata aaaaaaaaaa tggactgacg ctcttggtcc tgtgatgtgt 17460  
gttttttagat ggaagacatc aatttttcgt ccctggcacc gcgacacggc acgcggccgt 17520  
ttatgggcac ctggagcgac atcggaaca gccaaactgaa cggggggcgcc ttcaattgga 17580  
gcagtctctg gagcgggctt aagaatttcg ggtccacgct caaaacctat ggcaacaagg 17640  
cgtggaacag cagcacaggg caggcgctga gggaaaagct gaaagaacag aacttcagc 17700  
agaagggtgt tgatggcctg gcctcaggca tcaacggggt gggtgacctg gccaaaccag 17760  
ccgtgcagaa acagatcaac agccgcctgg acgcggtccc gcccgcgggg tccgtggaga 17820  
tgccccaggt ggaggaggag ctgcctcccc tggacaagcg cggcgacaag cgaccgcgtc 17880  
ccgacgcgga ggagacgctg ctgacgcaca cggacgagcc gccccgtac gaggaggcgg 17940  
tgaaactggg cctgcccacc acgcggcccc tggcgctctt ggccaccgga gtgctgaaac 18000  
ccagcagcag ccagcccgcg accctggact tgcctccgcc tcgccccctc acagtggcta 18060  
agccccctgc gccggtggcc gtcgcgtcgc gcgccccccg aggcgcgcc caggcgaact 18120  
ggcagagcac tctgaacagc atcgtgggtc tgggagtga gagtgtgaag cgccgccgct 18180  
gctattaaaa gacactgtag cgcttaactt gcttgtctgt gtgtatatgt atgtccgccg 18240  
accagaagga ggagtgtgaa gaggcgcgtc gccgagttgc aagatggcca ccccatcgat 18300

gctgccccag tgggcgtaca tgcacatcgc cggacaggac gcttcggagt acctgagtcc 18360  
gggtctggtg cagttcgccc gcgccacaga cacctacttc agtctgggga acaagtttag 18420  
gaacccccacg gtggcgccca cgcacgatgt gaccaccgac cgagaccagc ggctgacgct 18480  
gcgcttcgtg cccgtggacc gcgaggacaa cacctactcg tacaaaagtgc gctacacgct 18540  
ggccgtgggc gacaaccgcg tgctggacat ggccagcacc tactttgaca tccgcggcgt 18600  
gctggaccgg ggccctagct tcaaacccta ctctggcacc gcctacaaca gcctagctcc 18660  
caaggagact cccaattcca gccagtggga gcaagcaaaa acaggcaatg ggggaactat 18720  
ggaaacacac acatatggtg tggcccaat gggcggagag aatattacaa aagatggtct 18780  
tcaaattgga actgacgtta cagcgaatca gaataaacca atttatgccg aaaaaacatt 18840  
tcaaccagaa ccgcaagtag gagaagaaaa ttggcaagaa actgaaaact ttatggcgg 18900  
tagagctctt aaaaaagaca caaacatgaa accttgctat ggctcctatg ctagaccac 18960  
caatgaaaaa ggaggtcaag ctaaacctaa agttggagat gatggagttc caaccaaaga 19020  
attcgacata gacctggctt tctttgatac tcccggtggt accgtgaacg gtcaagacga 19080  
gtataaagca gacattgtca tgtataccga aaacacgtat ttggaaactc cagacacgca 19140  
tgtgtgtatac aaaccaggca aggatgatgc aagttctgaa attaacctgg ttcagcagtc 19200  
tatgcccaac agaccaact acattgggtt cagggaacaac ttatcggtc ttatgtacta 19260  
caacagcact ggcaatatgg gtgtgcttgc tggtcaggcc tcccagctga atgctgtggt 19320  
tgatttgcaa gacagaaaca ccgagctgtc ctaccagctc ttgcttgact ctttgggtga 19380  
cagaaccggt tatttcagta tgtggaacca ggcggtggac agttatgacc ccgatgtgcg 19440  
catcatcgaa aaccatggtg tggaggatga attgccaaac tattgcttcc ctttggacgg 19500  
ctctggcact aacgccgcat accaaggtgt gaaagtaaaa gatggtcaag atggtgatgt 19560  
tgagagtga tgggaaaatg acgatactgt tgcagctcga aatcaattat gtaaaggtaa 19620  
cattttcgcc atggagatta atctccaggc taacctgtgg agaagtttcc tctactcgaa 19680  
cgtggccctg tacctgcccg actcctacaa gtacacgccg accaacgtca cgctgccgac 19740  
caacaccaac acctacgatt acatgaatgg cagagtgaaca cctccctcgc tggtagacgc 19800  
ctacctcaac atcggggcgc gctggctcgt ggaccccatg gacaacgtca accccttcaa 19860  
ccaccaccgc aacgcgggccc tgcgctaccg ctccatgctc ctgggcaacg ggcgctacgt 19920  
gcccttccac atccaggtgc cccaaaagtt tttcgccatc aagagcctcc tgctcctgcc 19980  
cgggtcctac acctacgagt ggaacttccg caaggacgtc aacatgatcc tgcagagctc 20040  
cctaggcaac gacctgcgca cggacggggc ctccatcgcc ttcaccagca tcaacctcta 20100  
cgccaccttc ttcccatgg cgacaacac cgctccacg ctcgaggcca tgctgcgcaa 20160  
cgacaccaac gaccagtcct tcaacgacta cctctcggcg gccaacatgc tctaccccat 20220  
cccggccaac gccaccaacg tgcccatctc catccctcgc cgcaactggg ccgccttccg 20280  
cggatggtcc ttcacgcgcc tgaagacctg cgagacgccc tcgctcggct ccgggttcga 20340  
cccctacttc gtctactcgg gctccatccc ctacctagac ggcaccttct acctcaacca 20400

caccttcaag aaggtctcca tcaccttcga ctctccgctc agctggcccg gcaacgaccg 20460  
cctcctgacg cccaacgagt tcgaaatcaa gcgcaccgctc gacggagagg gatacaacgt 20520  
ggcccagtg c aacatgacca aggactgggt cctggtccag atgctggccc actacaacat 20580  
cggctaaccag ggcttctacg tgcccgaggg ctacaaggac cgcatgtact ccttcttccg 20640  
caacttccag cccatgagcc gccaggtcgt ggacgaggtc aactacaagg actaccaggc 20700  
cgtcaccctg gcctaccagc acaacaactc gggcttcgct ggctaccctc gccccaccat 20760  
gcgccagggc cagccctacc ccgccaacta cccctaccgc ctcatcggca agagcgccgt 20820  
cgccagcgtc acccagaaaa agttcctctg cgaccgggtc atgtggcgca tcccccttc 20880  
cagcaacttc atgtccatgg gcgcgctcac cgacctcggc cagaacatgc tctacgcaa 20940  
ctccgcccac gcgctagaca tgaatttcga agtcgacccc atggatgagt ccacccttct 21000  
ctatgttgtc ttcgaagtct tcgacgtcgt ccgagtgac cagccccacc gcggcgctcat 21060  
cgaagccgtc tacctgcgca cgcccttctc ggccggcaac gccaccacct aagccgctct 21120  
tgcttcttgc aagatgacgg cgggctccgg cgagcaggag ctcagggcca tcctccgcga 21180  
cctgggctgc gggccctgct tcctgggcac cttcgacaag cgcttccctg gattcatggc 21240  
cccgcacaag ctggcctgcg ccatcgtgaa cacggccggc cgcgagaccg ggggagagca 21300  
ctggctggcc ttcgcctgga acccgcgctc ccacacatgc tacctcttcg accccttcgg 21360  
gttctcggac gagcgctca agcagatcta ccagttcgag tacgagggcc tgctgcgtcg 21420  
cagcgccctg gccaccgagg accgctgcgt caccctggaa aagtccacc agaccgtgca 21480  
gggtccgcgc tcggccgcct gcgggctctt ctgctgcatg ttcctgcacg ccttcgtgca 21540  
ctggcccgac cgcccatgg acaagaacct caccatgaac ttactgacgg gggtgcccaa 21600  
cggcatgctc cagtcgcccc aggtggaacc caccctgcgc cgcaaccagg aagcgctcta 21660  
ccgcttctc aatgccact ccgcctactt tcgctccac cgcgcgcgca tcgagaaggc 21720  
caccgccttc gaccgcatga atcaagacat gtaaaaaacc ggtgtgtgta tgtgaatgct 21780  
ttattcataa taaacagcac atgtttatgc caccttctct gaggtcttga ctttatttag 21840  
aaatcgaagg ggttctgccg gctctcggca tggcccgcgg gcagggatac gttgcggaac 21900  
tggtacttgg gcagccactt gaactcgggg atcagcagct tgggcacggg gaggtcgggg 21960  
aacgagtcgc tccacagctt gcgcgtgagt tgacgggcgc ccagcaggtc gggcgcgagg 22020  
atcttgaaat cgagttggg acccgcttc tcgcgcgag agttgcggt caccggggtt 22080  
cagcactgga acaccatcag ggccgggtgc ttcacgcttg ccagcaccgt cgcgtcggtg 22140  
atgccctcca cgtccagatc ctccggcttg gccatcccga aggggggtcat cttgcaggtc 22200  
tgccgcccc tgctgggcac gcagccgggc ttgtggttg aatcgagtg cagggggatc 22260  
agcatcatct gggcctgctc ggagctcatg cccgggtaca tggccttcat gaaagcctcc 22320  
agctggcgga aggcctgctg cgccttgccg ccctcggtga agaagacccc gcaggacttg 22380  
ctagagaact ggttgggtggc gcagccggcg tcgtgcacgc agcagcgcg gtcgttgttg 22440

gccagctgca ccacgctgcg cccccagcgg ttctgggtga tcttggcccc gttgggggttc 22500  
tccttcagcg cgcgctgccc gttctcgctc gccacatcca tctcgatagt gtgctccttc 22560  
tggatcatca cgggtcccgtg caggcaccgc agcttgccct cggcttcggt gcagccgtgc 22620  
agccacagcg cgcagccggt gactccccag ttcttggtgg cgatctggga gtgagagtg 22680  
acgaagccct gcaggaagcg gccatcatc gcggtcaggg tcttggtgct ggtgaaggtc 22740  
agcgggatgc cgcggtgctc ctcgttcaca tacaggtggc agatgcggcg gtacacctcg 22800  
ccctgctcgg gcatcagctg gaaggcggac ttcaggtcgc tctccacgcg gtaccggtcc 22860  
atcagcagcg tcatcacttc catgcccttc tcccaggccg aaacgatcgg caggctcagg 22920  
gggttcttca ccgccattgt catcttagtc gccgccgccg aggtcagggg gtcgttctcg 22980  
tccagggtct caaactctcg cttgccgtcc ttctcgatga tgcgcacggg gggaaagctg 23040  
aagccacgcg ccgccagctc ctccctcgcc tgcctttcgt cctcgctgtc ctggctgatg 23100  
tcttgcaaag gcacatgctt ggtcttgcg ggtttctttt tgggcggcag aggcggcggc 23160  
gatgtgctgg gagagcgca gttctcgctc accacgacta tttcttcttc ttggccgtcg 23220  
tccgagacca cgcggcggtg ggcagcctc ttctggggca gaggcggagg cgacgggctc 23280  
tcgcggttcg gcgggcggct ggcagagccc cttccgcgtt cgggggtgcg ctccctggcg 23340  
cgctgctctg actgacttcc tccgcggccg gccattgtgt tctcctaggg agcaacaaca 23400  
agcatggaga ctacgccatc gtcgccaaca tcgccatctg ccccgccgc caccgccgac 23460  
gagaaccagc agcagaatga aagcttaacc gccccgccgc ccagccccac ctccgacgcc 23520  
gcggccccag acatgcaaga gatggaggaa tccatcgaga ttgacctggg ctacgtgacg 23580  
cccgcggagc acgaggagga gctggcagcg cgcttttcag ccccggaaga gaaccaccaa 23640  
gagcagccag agcaggaagc agagaacgag cagaaccagg ctgggcacga gcatggcgac 23700  
tacctgagcg gggcagagga cgtgctcatc aagcatctgg cccgccaatg catcatcgctc 23760  
aaggacgcgc tgctcgaccg cgccgaggtg cccctcagcg tggcgagct cagccgcgcc 23820  
tacgagcgca acctcttctc gccgcgcgtg cccccaagc gccagcccaa cggcacctgt 23880  
gagcccaacc cgcgcctcaa cttctaccg gtcttcgcgg tgcccgaggc cctggccacc 23940  
taccacctct ttttcaagaa ccaaaggatc cccgtctcct gccgcgcaa ccgcacccgc 24000  
gccgacgccc tgctcaacct gggccccggc gccgcctac ctgatatac ctcttgtaa 24060  
gaggttcca agatcttcga ggtctgggc agcgacgaga ctcgggccgc gaacgctctg 24120  
caaggaagcg gagaggagca tgagcaccac agcgccctgg tggagttgga aggcgacaac 24180  
gcgcgcctgg cggctctcaa gcgcacggtc gagctgacct acttcgccta cccggcgctc 24240  
aacctgcccc ccaaggatcat gagcgccgtc atggaccagg tgctcatcaa gcgcgcctcg 24300  
cccctctcgg aggaggagat gcaggacccc gagagttcgg acgagggcaa gcccggtggtc 24360  
agcgacgagc agctggcgcg ctggctggga gcgagtagca cccccagag cctggaagag 24420  
cggcgcaagc tcatgatggc cgtggtcctg gtgaccgtgg agctggagtg tctgcgccgc 24480  
ttctttgccg acgcggagac cctgcgcaag gtcgaggaga acctgcacta cctcttcagg 24540

cacgggttcg tgcgccaggc ctgcaagatc tccaacgtgg agctgaccaa cctggtctcc 24600  
tacatgggca tcctgcacga gaaccgcctg gggcaaaacg tgctgcacac caccctgcgc 24660  
ggggaggccc gccgcgacta catccgcgac tgcgtctacc tgtacctctg ccacacctgg 24720  
cagacgggca tgggcgtgtg gcagcagtgc ctggaggagc agaacctgaa agagctctgc 24780  
aagctcctgc agaagaacct caaggccctg tggaccgggt tcgacgagcg taccaccgcc 24840  
tcggacctgg ccgacctcat cttccccgag cgcttgcggc tgacgctgcg caacgggctg 24900  
cccgacttta tgagccaaag catgttgcaa aactttcgtc ctttcatcct cgaacgctcc 24960  
gggatcctgc ccgccacctg ctccgcgctg ccctcggact tcgtgccgct gaccttccgc 25020  
gagtgtcccc cgccgctctg gagccactgc tacttgctgc gcctggccaa ctacctggcc 25080  
taccactcgg acgtgatcga ggacgtcagc ggcgagggtc tgctggagtg cactgtccgc 25140  
tgcaacctct gcacgccga ccgctccctg gcctgcaacc cccagctgct gagcgagacc 25200  
cagatcatcg gcaccttga gttgcaaggc cccggcgacg gcgagggcaa ggggggtctg 25260  
aaactacccc cggggctgtg gacctcggcc tacttgcgca agttcgtgcc cgaggactac 25320  
catcccttcg agatcagggt ctacgaggac caatcccagc cgccaaggc cgagctgtcg 25380  
gcctgcgtca tcaccaggg ggccatcctg gcccaattgc aagccatcca gaaatcccgc 25440  
caagaatttc tgctgaaaaa gggccacggg gtctacttgg acccccagac cggagaggag 25500  
ctcaacccca gtttcccca ggatgccccg aggaagcagc aagaagctga aagtggagct 25560  
gccgccgccg gaggatttgg aggaagactg ggagagcagt caggcagagg aggaggagat 25620  
ggaagactgg gacagcactc aggcagagga ggacagcctg caagacagtc tggaggagga 25680  
agacgaggtg gaggaggcag aggaagaagc agccgccgcc agaccgtcgt cctcggcgga 25740  
gaaagcaagc agcacggata ccatctccgc tccgggtcgg ggtcgcggcg gccgggcca 25800  
cagtaggttg gacgagaccg ggcgttccc gaaccccacc acccagaccg gtaagaagga 25860  
gcggcaggga tacaagtcct ggcgggggca caaaaacgcc atcgtctcct gcttgcaagc 25920  
ctgcgggggc aacatctcct tcaccggcg ctacctgtc ttccaccgcg ggggtgaactt 25980  
ccccgcaac atcttgcat actaccgtca cctccacagc ccctactact gtttccaaga 26040  
agaggcagaa acccagcagc agcagaaaac cagcggcagc agcagctaga aaatccacag 26100  
cggcggcagg tggactgagg atcgcggcga acgagccggc gcagaccggg gagctgagga 26160  
accggatctt tcccaccctc tatgccatct tccagcagag tcgggggag gagcaggaac 26220  
tgaaagtcaa gaaccgttct ctgcgctcgc tcaccgcag ttgtctgtat cacaagagcg 26280  
aagaccaact tcagcgact ctcgaggacg ccgaggctct cttcaacaag tactgcgcgc 26340  
tcactcttaa agagtagccc gcgcccggc acacacggaa aaaggcggga attacgtcac 26400  
cacctgcgcc cttcggccga ccatcatgag caaagagatt cccacgcctt acatgtggag 26460  
ctaccagccc cagatgggcc tggccgccg cgccggccag gactactcca cccgcatgaa 26520  
ctggctcagt gccgggcccg cgatgatctc acgggtgaat gacatccgcg cccaccgaaa 26580

ccagatactc ctagaacagt cagcgatcac cgccacgccc cgccatcacc ttaatccgcg 26640  
taattggccc gccgccctgg tgtaccagga aattccccag cccacgaccg tactacttcc 26700  
gcgagacgcc caggccgaag tccagctgac taactcaggt gtccagctgg ccggcggcgc 26760  
cgccctgtgt cgtcaccgcc ccgctcaggg tataaagcgg ctggtgatcc gaggcagagg 26820  
cacacagctc aacgacgagg tggtagctc ttcgctgggt ctgacgacctg acggagtctt 26880  
ccaactcgcc ggatcgggga gatcttcctt cacgcctcgt caggccgtcc tgactttgga 26940  
gagttcgctc tcgcagcccc gctcgggcgg catcggcact ctccagttcg tggaggagt 27000  
cactccctcg gtctacttca accccttctc cggctcccc ggccactacc cggacgagt 27060  
catcccgaac ttcgacgcca tcagcgagtc ggtggacggc tacgattgaa tgtcccatgg 27120  
tggcgagct gacctagctc ggcttcgaca cctggaccac tgccgccgct tccgctgctt 27180  
cgctcgggat ctgccgagt ttgcctactt tgagctgccc gaggagcacc ctgaggccc 27240  
agcccacgga gtgcggatca tcgtcgaagg gggcctcgac tcccacctgc ttcggatctt 27300  
cagccagcga ccgatcctgg tcgagcgca acaaggacag acccttctta ctttgactg 27360  
catctgcaac caccgcggcc tgcataaag tctttgttgt ctgctgtgta ctgagtataa 27420  
taaaagctga gatcagcgac tactccggac tcgattgtgg tgttcctgct atcaaccggt 27480  
ccctgttctt caccgggaac gagaccgagc tccagctcca gtgtaagccc cacaagaagt 27540  
acctcacctg gctgttccag ggctccccga tcgccgttgt caaccactgc gacaacgacg 27600  
gagtcctgct gagcggccct gccaacctta cttttccac ccgcagaagc aagctccagc 27660  
tcttcaacc cttcctcccc gggacctatc agtgctctc aggacctgc catcacacct 27720  
tccacctgat ccgaatacc acagcgccgc tccccgtac taacaaccaa actaccacc 27780  
aacgccaccg tcgcgacctt tcctctgaat ctaataccac taccggaggt gagctccgag 27840  
gtcgaccaac ctctgggatt tactacggcc cctgggaggt ggtgggggta atagcgctag 27900  
gcctagtgtc ggggtgggctt ttggttctct gctacctata cctcccttgc tgttcgtact 27960  
tagtggtgct gtgttgctgg ttaagaaat ggggaagatc accctagtga gctgcggtgc 28020  
gctggtggcg gtgttgcttt cgattgtggg actgggcggc gcggctgtag tgaaggagaa 28080  
ggccgatccc tgcttgcat tcaatccaa caaatgccag ctgagttttc agcccgatgg 28140  
caatcgggtgc gcggtactga tcaagtgcgg atgggaatgc gagaacgtga gaatcgagta 28200  
caataacaag actcgggaaca atactctcgc gtccgtgtgg cagcccgggg accccgagt 28260  
gtacaccgtc tctgtccccg gtgctgacgg ctccccgcgc accgtgaata atactttcat 28320  
ttttgcgcac atgtgcaaca cggatcatgt gatgagcaag cagtacgata tgtggcccc 28380  
cacgaaggag aacatcgtgg tcttctccat cgcttacagc ctgtgcacgg cgtaatcac 28440  
cgctatcgtg tgcctgagca ttcacatgct catcgctatt cggcccagaa ataatgccga 28500  
gaaagagaaa cagccataac acgttttttc acacaccttg tttttacaga caatgcgtct 28560  
gttaaaat taaacattg tgctcagtat tgcttatgcc tctggttatg caaacataca 28620  
gaaaaccctt tatgtaggat ctgatggtac actagagggt acccaatcac aagccaaggt 28680

tgcatggtat ttttatagaa ccaacactga tccagttaaa ctttgtaagg gtgaattgcc 28740  
gcgtacacat aaaactccac ttacatttag ttgcagcaat aataatctta cacttttttc 28800  
aattacaaaa caatatactg gtacttatta cagtacaaac tttcatacag gacaagataa 28860  
atattatact gttaaggtag aaaatcctac cactcctaga actaccacca ccaccactac 28920  
tgcaaagccc actgtgaaaa ctacaactag gaccaccaca actacagaaa ccaccaccag 28980  
cacaacactt gctgcaacta cacacacaca cactaagcta accttacaga ccactaatga 29040  
tttgatcgcc ctgctgcaaa agggggataa cagcaccact tccaatgagg agatacccaa 29100  
atccatgatt ggcattattg ttgctgtagt ggtgtgcatg ttgatcatcg ccttggtgcat 29160  
ggtgtactat gccttctgct acagaaagca cagactgaac gacaagctgg aacacttact 29220  
aagtgttgaa ttttaatttt ttagaaccat gaagatccta ggccttttta gtttttctat 29280  
cattacctct gctctttgtg aatcagtggg tagagatggt actattacca ctgggttctaa 29340  
ttatacactg aaagggccac cctcaggtat gctttcgtgg tattgctatt ttggaactga 29400  
cactgatcaa actgaattat gcaattttca aaaaggcaaa acctcaaact ctaaaatctc 29460  
taattatcaa tgcaatggca ctgatctgat actactcaat gtcacgaaag catatggtgg 29520  
cagttattat tgccctggac aaaacactga agaaatgatt ttttacaag tggaagtggg 29580  
tgatccact acaccacca ccaccacaac tattcatacc acacacacag aacaaacacc 29640  
agaggcaaca gaagcagagt tggccttcca gggtcacgga gattcctttg ctgtcaatac 29700  
ccctacaccc gatcagcggg gtccggggcc gctagtcagc ggcatgtcg gtgtgctttc 29760  
gggattagca gtcataatca tctgcatggt catttttgct tgctgctata gaaggcttta 29820  
ccgacaaaaa tcagaccac tgctgaacct ctatgtttaa tttttccag agccatgaag 29880  
gcagttagcg ctctagtttt ttgttctttg attggcattg tttttaatag taaaattacc 29940  
agagttagct ttattaaaca tgtaaatgta actgaaggag ataacatcac actagcaggt 30000  
gtagaagggt ctcaaaacac cacctggaca aaataccatc taggatggag agatatttgc 30060  
acctggaatg taacttatta ttgcatagga gttaatctta ccattgttaa cgctaaccaa 30120  
tctcagaatg ggtaattaa aggacagagt gttagtgtga ccagtgatgg gtactatacc 30180  
cagcatagtt ttaactacaa cattactgtc ataccactgc ctacgcctag cccacctagc 30240  
actaccacac agacaaccac atacagtaca tcaaatcagc ctaccaccac tacagcagca 30300  
gaggttgcca gctcgtctgg ggtccgagt gcatTTTTga tgttgcccc atctagcagt 30360  
cccactgcta gtaccaatga gcagactact gaatttttgt cactgtcga gagccacacc 30420  
acagctacct ccagtgcctt ctctagcacc gccaatctct cctcgctttc ctctacacca 30480  
atcagccccg ctactactcc tagccccgct cctcttccca ctcccctgaa gcaaacagac 30540  
ggcggcatgc aatggcagat caccctgctc attgtgatcg ggttggtcat cctggccgtg 30600  
ttgctctact acatcttctg ccgccgcatt cccaacgcgc accgcaagcc ggcctacaag 30660  
cccatcgtaa tcgggcagcc ggagccgctt caggtggaag ggggtctaag gaatcttctc 30720

ttctctttta cagtatggtg attgaactat gattcctaga caattcttga tcactattct 30780  
tatctgcttc ctccaagtct gtgccaccct cgctctggtg gccaacgcca gtccagactg 30840  
tattggggcc ttgcctcctt acgtgctctt tgccttcgtc acctgcatct gctgctgtag 30900  
catagtctgc ctgcttatca cttctttcca gttcattgac tggatctttg tgcgcatcgc 30960  
ctacctgcgc caccaccccc agtaccgcga ccagcgagtg gcgcagctgc tcaggctcct 31020  
ctgataagca tgcgggctct gctacttctc gcgcttctgc tgttagtgct cccccgtccc 31080  
gtcgaccccc ggtccccac tcagtcccc gaggagggtc gcaaatgcaa attccaagaa 31140  
ccctggaaat tcctcaaag ctaccgcaa aaatcagaca tgcacccag ctggatcatg 31200  
atcattggga tcgtgaacat tctggcctgc accctcatct cttttgtgat ttaccctgc 31260  
tttgactttg gttggaactc gccagaggcg ctctatctcc cgctgaacc tgacacacca 31320  
ccacagcagc aacctcaggc acacgacta ccaccaccac agcctaggcc acaatacatg 31380  
cccatattag actatgaggc cgagccacag cgacccatgc tccccgctat tagttacttc 31440  
aatctaaccg gcggagatga ctgaccact ggccaataac aacgtcaacg accttctcct 31500  
ggacatggac ggccgcgcct cggagcagcg actcgccaa cttcgcattc gtcagcagca 31560  
ggagagagcc gtcaaggagc tgcaggacgg catagccatc caccagtga agagaggcat 31620  
cttctgcctg gtgaaacagg ccaagatctc ctacgaggtc acccagaccg accatcgcct 31680  
ctcctacgag ctctgcagc agcgccagaa gttcacctgc ctggtcggag tcaaccccat 31740  
cgtcatcacc cagcagtcgg gcgatacaa ggggtgcac cactgctcct gcgactcccc 31800  
cgactgcgtc cacactctga tcaagaccct ctgcggcctc cgcgacctc tccccatgaa 31860  
ctaatacccc ctttatccag tgaaataaag atcatattga tgatgattta aataaaaaaa 31920  
ataatcattt gatttgaaat aaagatacaa tcatattgat gatttgagtt taacaaaaat 31980  
aaagaatcac ttacttgaaa tctgatacca ggtctctgtc catgttttct gccaacacca 32040  
cctcactccc ctcttcccag ctctggtact gcaggccccg gcgggctgca aacttcctcc 32100  
acacgctgaa ggggatgtca aattcctcct gtccctcaat cttcatttta tcttctatca 32160  
gatgtccaaa aagcgcgtcc ggggtggatga tgacttcgac ccgctctacc cctacgatgc 32220  
agacaacgca ccgaccgtgc cttcatcaa ccccccttc gtctcttcag atggattcca 32280  
agagaagccc ctgggggtgt tgtccctgcg actggctgac ccgctcacca ccaagaacgg 32340  
ggaaatcacc ctcaagctgg gagagggggg ggacctcgac tcgtcgggaa aactcatctc 32400  
caacacggcc accaaggccg ccgcccctct cagtatttca aacaacacca tttcccttaa 32460  
aactgctgcc cttttctaca acaacaatgg aactttaagc ctcaatgtct ccacaccatt 32520  
agcagtattt ccacattta acactttagg cataagtctt ggaaacggc ttcagacttc 32580  
aaataagtgt ttgactgtac aactaactca tcctcttaca ttcagctcaa atagcatcac 32640  
agtaaaaaca gacaaagggc tatatattaa ctccagtga aacagaggac ttgaggctaa 32700  
tataagccta aaaagaggac tagtttttga cggtaatgct attgcaacat atattggaaa 32760  
tggcttagac tatggatctt atgatatgta tggaaaaaca agaccgtaa ttacaaaaat 32820

tggagcagga ttaaattttg atgctaacaa agcaatagct gtcaaactag gcacaggttt 32880  
aagttttgac tccgctggtg ccttgacagc tggaaacaaa caggatgaca agctaacact 32940  
ttggactacc cctgacccaa gccctaattg tcaattactt tcagacagag atgccaaatt 33000  
tactctctgt cttacaaaat gcggtagtca aatactaggc actgtggcag tggcggctgt 33060  
tactgtagga tcagcactaa atccaattaa tgacacagtc aaaagcgcca tagttttcct 33120  
tagatttgat tccgatggtg tactcatgtc aaactcatca atggtagggtg attactggaa 33180  
ctttagggag ggacagacca ctcaaagtgt agcctataca aatgctgtgg gattcatgcc 33240  
aaatataggt gcatatccaa aaacccaaag taaaacacct aaaaatagca tagtcagtca 33300  
ggtatatatta actggagaaa ctactatgcc aatgacacta accataactt tcaatggcac 33360  
tgatgaaaaa gacacaaccc cagtttagcac ctactctatg actttttacat ggcatggac 33420  
tggagactat aaggacaaaa atattacctt tgctaccaac tcattctctt tttcctacat 33480  
cgcccaggaa taatcccacc cagcaagcca accccttttc ccaccacctt tgtctatatg 33540  
gaaactctga aacagaaaaa taaagttcaa gtgttttatt gaatcaacag ttttacagga 33600  
ctcgagcagt tatttttcct ccaccctccc aggacatgga atacaccacc ctctcccccc 33660  
gcacagcctt gaacatctga atgccattgg tgatggacat gcttttggtc tccacgttcc 33720  
acacagtttc agagcgagcc agtctcggat cggtcagggg gatgaaacct tccgggcact 33780  
cccgcctctg cacctcacag ctcaacagct gaggattgtc ctcggtggtc gggatcacgg 33840  
ttatctggaa gaagcagaag agcggcggtg ggaatcatag tccggaacg ggatcggccg 33900  
gtggtgtcgc atcaggcccc gcagcagtcg ctgccgccgc cgctccgtca agctgtgtct 33960  
caggggggtc ggggtccagg actccctcag catgatgcc acggccctca gcatcagtcg 34020  
tctggtgcgg cgggcgcagc agcgcagtcg aatctcgtc aggtcactgc agtacgtgca 34080  
acacaggacc accaggttgt tcaacagtcc atagttcaac acgctccagc cgaaactcat 34140  
cgcggaagg atgctaccca cgtggccgtc gtaccagatc ctgaggtaaa tcaagtggcg 34200  
ctccctccag aagacgtgc ccatgtacat gatctccttg ggcattgtggc gggtcaccac 34260  
ctcccggtac cacatcacc tctggttgaa catgcagccc cggatgatcc tgcggaacca 34320  
cagggccagc accgccccgc ccgccatgca gcgaagagac cccggatccc ggcaatgaca 34380  
atggaggacc caccgctcgt acccggtggat catctgggag ctgaacaagt ctatgttggc 34440  
acagcacagg catatgctca tgcatctctt cagcactctc agctcctcgg gggtaaaaac 34500  
catatcccag ggcacgggga actcttgtag gacagcgaac cccgcagaac agggcaatcc 34560  
tcgcacataa cttacattgt gcatggacag ggtatcgcaa tcaggcagca ccgggtgatc 34620  
ctccaccaga gaagcgcggg tctcggtctc ctacacagct ggtaaggggg ccggccgata 34680  
cgggtgatgg cgggacgcgg ctgatcgtgt tctcgaccgt gtcattgatgc agttgctttc 34740  
ggacattttc gtacttgctg tagcagaacc tgggtccgggc gctgcacacc gatcgccggc 34800  
ggcgggtctg gcgcttgga cgctcgggtg taaagttgta aaacagccac tctctcagac 34860

```

cgtgcagcag atctagggcc tcaggagtga tgaagatccc atcatgcctg atagctctga 34920
tcacatcgac caccgtggaa tgggccaggc ccagccagat gatgcaattt tgttgggttt 34980
cgggtgacggc gggggaggga agaacaggaa gaaccatgat taacttttaa tccaaacggt 35040
ctcggagcac ttcaaaatga aggtcacgga gatggcacct ctgcccccg ctgtgttggt 35100
ggaaaataac agccagggtca aagggtgatac ggttctcgag atgttcacg gtggcttcca 35160
gcaaagcctc cagcgcgaca tccagaaaca agacaatagc gaaagcggga gggttctcta 35220
attcctcaac catcatgtta cactcctgca ccattccccag ataattttca tttttccagc 35280
cttgaatgat tcgaactagt tcctgaggta aatccaagcc agccatgata aaaagctcgc 35340
gcagagcacc ctccaccggc attcttaagc acaccctcat aattccaaga tattctgctc 35400
ctggttcacc tgcagcagat tgacaagcgg aatatcaaaa tctctgccgc gatccctgag 35460
ctcctccctc agcaataact gtaagtactc tttcatatcg tctccgaaat ttttagccat 35520
aggaccccca ggaataagag aagggcaagc cacattacag ataaaccgaa gtccccccca 35580
gtgagcattg ccaaattgaa gattgaaata agcatgctgg ctagaccgg tgatatcttc 35640
cagataactg gacagaaaat cgggtaagca atttttaaga aatcaacaa aagaaaaatc 35700
ttccagggtgc acgtttaggg cctcgggaac aacgatggag taagtgaag ggggtgcgttc 35760
cagcatgggt agtttagctga tctgtaaaaa aacaaaaaat aaaacattaa accatgctag 35820
cctggcgaac aggtgggtga atcgttctct ccagcaccag gcaggccacg ggggtctccg 35880
cgcgaccctc gtaaaaattg tcgctatgat tgaaaaccat cacagagaga cgttcccgg 35940
ggccggcgtg aatgattcga gaagaagcat acaccccg aacattggag tccgtgagtg 36000
aaaaaaagcg gccgaggaag caatgaggca ctacaacgct cactctcaag tccagcaaag 36060
cgatgccatg cggatgaagc acaaaatttt cagggtgcgt aaaaatgtaa ttactcccct 36120
cctgcacagg cagcgaagct cccgatccct ccagatacac atacaaagcc tcagcgtcca 36180
tagcttacgg agcggcagca gcagcggc acaacaggcg caagagtcag agaaaagact 36240
gagctctaac ctgtccgcc gctctctgct caatatatag cccagatct aactgacgt 36300
aaaggccaaa gtctaaaaat acccgccaaa taatcacaca cgccagcac acgcccagaa 36360
accggtgaca cactcagaaa aatacgcgca cttcctcaaa cgccaaact gccgtcattt 36420
ccgggttccc acgctacgtc atcaaaacac gactttcaaa ttccgtcgac cgttaaaaac 36480
atcacccgcc ccgcccctaa cggtcgccgc tcccgcagcc aatcaccttc ctccctcccc 36540
aaattcaaac agctcatttg catattaacg cgcacaaaaa gtttgaggta tattattgat 36600
gatg 36604

```

&lt;210&gt; 3

&lt;211&gt; 36535

&lt;212&gt; DNA

&lt;213&gt; chimpanzee adenovirus serotype Pan7

&lt;400&gt; 3

```

catcatcaat aatatacctc aaacttttgg tgcgcgttaa tatgcaaatg agctgtttga 60

```

atttggggag ggaggaaggt gattggccga gagacgggag accgttaggg gcggggcggg 120  
 tgacgttttt aatacgtggc cgtgaggcgg agccggtttg caagtctctg tgggaaaagt 180  
 gacgtcaaac gaggtgtggt ttgaacacgg aaatactcaa ttttcccgcg ctctctgaca 240  
 ggaaatgagg tgtttctggg cggatgcaag tgaaaacggg ccattttcgc gcgaaaactg 300  
 aatgaggaag tgaaaatctg agtaatttcg cgtttatggc agggaggagt atttgccgag 360  
 ggccgagtag actttgaccg attacgtggg ggtttcgatt accgtatttt tcacctaaat 420  
 ttccgcgtac ggtgtcaaag tccggtgttt ttacgtaggc gtcagctgat cgccagggtg 480  
 tttaaacctg cgctctctag tcaagaggcc actcttgagt gccagcgagt agagttttct 540  
 cctccgcgcc gcgagtcaga tctacacttt gaaagatgag gcacctgaga gacctgcccg 600  
 gtaatgtttt cctggctact ggaacgaga ttctggaatt ggtggtggac gccatgatgg 660  
 gtggcgaccc tcctgagccc cctaccccat ttgaggcgcc ttcgctgtac gatttgatg 720  
 atctggaggt ggatgtgccc gagaacgacc ccaacgagga ggcggtgaat gatttgttta 780  
 gcgatgccgc gctgctggct gccgagcagg ctaatacggg ctctggctca gacagcgatt 840  
 cctctctcca taccgagaga cccggcagag gtgagaaaaa gatccccgag cttaaagggg 900  
 aagagctcga cctgcgctgc tatgaggaat gcttgccctc gagcgatgat gaggaggacg 960  
 aggaggcgat tcgagctgca tcgaaccagg gagtgaagc tgcgggagaa agcttttagcc 1020  
 tggactgtcc tactctgccc ggacacggct gtaagtcttg tgaatttcac cgcatgaata 1080  
 ctggagataa gaatgtgatg tgtgccctgt gctatatgag agcttacaac cattgtgttt 1140  
 acagtaagtg tgattaactt tagttgggaa ggcagagggg gactgggtgc tgactggttt 1200  
 atttatgtat atgttttttt atgtgtaggc cccgtctctg acgtagatga gacccccact 1260  
 tcagagtgcg tttcatcacc cccagaaatt ggcgaggaac cgcccgaaga tattattcat 1320  
 agaccagttg cagtgtgagt caccgggagg agagcagctg tggagagttt ggatgacttg 1380  
 ctacaggggtg gggatgaacc tttggacttg tgtaccgga aacgccccag gcactaagtg 1440  
 ccacacatgt gtgtttactt aagggtgatg cagtatttat aggggtgtga gtgcaataaa 1500  
 atccgtgttg actttaagtg cgtgggtttt gactcagggg tggggactgt gggatatata 1560  
 gcaggtgcag acctgtgtgg tcagttcaga gcaggactca tggagatctg gacggtcttg 1620  
 gaagactttc accagactag acagctgcta gagaactcat cggagggggg ctcttacctg 1680  
 tggagattct gcttcggtgg gcctctagct aagctagtct atagggccaa acaggattat 1740  
 aaggatcaat ttgaggatat tttgagagag tgtcctggta tttttgactc tctcaacttg 1800  
 ggccatcagt ctacttttaa ccagagtatt ctgagagccc ttgacttttc tactcctggc 1860  
 agaactaccg ccgcggtagc cttttttgcc tttatccttg acaaatggag tcaagaaacc 1920  
 catttcagca gggattaccg tctggactgc ttgacgttag ctttgtggag aacatggagg 1980  
 tgccagcgcc tgaatgcaat ctccggctac ttgccagtac agccggtaga cacgctgagg 2040  
 atcctgagtc tccagtcacc ccaggaacac caacgccgcc agcagccgca gcaggagcag 2100  
 cagcaagagg aggaggagga tcgagaagag aacccgagag ccggtctgga ccctccggtg 2160

gcggaggagg aggagtagct gacttgtttc ccgagctgcg ccgggtgctg actaggtctt 2220  
ccagtggacg ggagagggggg attaagcggg agaggcatga ggagactagc cacagaactg 2280  
aactgactgt cagtctgatg agccgcaggc gcccagaatc ggtgtggtgg catgaggttc 2340  
agtcgcaggg gatagatgag gtctcggtga tgcagtagaa atattccctg gaacaagtca 2400  
agacttgttg gttggagcct gaggatgatt gggaggtagc catcaggaat tatgccaaagc 2460  
tggctctgaa gccagacaag aagtacaaga ttaccaaact gattaatatc agaaattcct 2520  
gctacatttc agggaatggg gccgaggtgg agatcagtac ccaggagagg gtggccttca 2580  
gatgttgat gatgaatatg taccggggg tgggtggcat ggaggagtc acctttatga 2640  
acgcgaggtt caggggtgat ggggtataatg ggggtggtctt tatggccaac accaagctga 2700  
cagtgcacgg atgtctcttc tttgggttca ataacatgtg catcgaggcc tggggcagtg 2760  
tttcagtga gggatgcagc ttttcagcca actggatggg ggtcgtgggc agaaccaaga 2820  
gcaaggtgtc agtgaagaaa tgctgttcg agaggtgccca cctgggggtg atgagcgagg 2880  
gcgaagccaa agtcaaacac tgcgcctcta ctgagacggg ctgctttgtg ctgatcaagg 2940  
gcaatgccca agtcaagcat aacatgatct gtggggcctc ggatgagcgc ggctaccaga 3000  
tgctgacctg cgccgggtggg aacagccata tgctggccac cgtgcatgtg acctcgacc 3060  
cccgaagac atggcccagag ttcgagcaca acgtcatgac ccgatgcaat gtgcacctgg 3120  
gggtcccgccg aggcattgtc atgccctacc agtgcaacat gcaatttgtg aagggtgctg 3180  
tggagcccga tgccatgtcc agagtgaaggc tgacgggggt gtttgacatg aatgtggagc 3240  
tgtggaaaat tctgagatat gatgaatcca agaccagggt ccgggcctgc gaatgcggag 3300  
gcaagcacgc caggcttcag cccgtgtgtg tggaggtgac ggaggacctg cgacccgatc 3360  
atgtgtgtt gtcctgcaac gggacggagt tcggctccag cggggaagaa tctgactaga 3420  
gtgagtagtg tttgggggag gtggagggtc tgtatgaggg gcagaatgac taaaatctgt 3480  
gtttttctgt gtgttgacgc agcatgagcg gaagcgcctc ctttgagggg ggggtattca 3540  
gcccttatct gacggggcgt ctcccctct gggcgggagt gcgtcagaat gtgatgggat 3600  
ccacgggtga cgccggggcc gtgcagccc cgaactcttc aaccctgacc tacgcgacct 3660  
tgagctctc gtccgtggac gcagctgccg ccgcagctgc tgcttccgcc gccagcgccg 3720  
tgcgcggaat ggccctgggc gccggctact acagctctct ggtggccaac tcgacttcca 3780  
ccaataatcc cgccagcctg aacgaggaga agctgctgct gctgatggcc cagctcgagg 3840  
ccctgacctg gcgcctgggc gagctgacct agcaggtggc tcagctgcag gcggagacgc 3900  
gggccgcggt tgccacgggtg aaaaccaaata aaaaaatgaa tcaataaata aacggagacg 3960  
gttggtgatt ttaacacaga gtcttgaatc tttatttgat ttttcgcgcg cggtaggccc 4020  
tggaccaccg gtctcgatca ttgagcacc ggtggatttt ttccaggacc cggtagaggt 4080  
gggcttgat gttgaggtac atgggcatga gcccgctccc ggggtggagg tagctccatt 4140  
gcagggcctc gtgctcgggg gtggtgttgt aaatcaccca gtcatagcag gggcgaggg 4200

cgtggtgctg cacgatgtcc ttgaggagga gactgatggc cacgggcagc cccttggtgt 4260  
 aggtgttgac gaacctgttg agctgggagg gatgcatgcg gggggagatg agatgcatct 4320  
 tggcctggat cttgagattg gcgatgttcc cgcccagatc ccgccggggg ttcattgttg 4380  
 gcaggaccac cagcacggtg tatccggtgc acttggggaa tttgtcatgc aacttggaag 4440  
 ggaaggcgtg aaagaatttg gagacgccct tgtgaccgcc caggttttcc atgcactcat 4500  
 ccatgatgat ggcgatgggc ccgtgggcgg cggcctgggc aaagacgttt cgggggtcgg 4560  
 acacatcgta gttgtggtcc tgggtgagct cgtcataggc ctttttaatg aatttggggc 4620  
 ggagggtgcc cgactggggg acgaagggtg cctcgatccc gggggcgtag ttgccctcgc 4680  
 agatctgcat ctcccaggcc ttgagctcgg agggggggat catgtccacc tgcggggcga 4740  
 tgaaaaaac ggtttccggg gcgggggaga tgagctgggc cgaaagcagg ttccggagca 4800  
 gctgggactt gccgcagccg gtggggccgt agatgacccc gatgaccggc tgcaggtggt 4860  
 agttgaggga gagacagctg ccgtcctcgc ggaggagggg ggccacctcg ttcattcatct 4920  
 cgcgcatatg catgttctcg cgcacgagtt ccgccaggag gcgctcgccc cccagcgaga 4980  
 ggagctcttg cagcgaggcg aagtttttca gcggcttgag yccgtcggcc atgggcattt 5040  
 tggagagggg ctgttgcaag agttccagac ggtcccagag ctcggtgatg tgctctaggg 5100  
 catctcgatc cagcagacct cctcgtttcg cgggttgggg cgactgcggg agtagggcac 5160  
 caggcgatgg gcgtccagcg aggccagggt ccggtccttc cagggtcgca gggtcgcgt 5220  
 cagcgtggtc tccgtcacgg tgaaggggtg cgcgcggggc tgggcgcttg cgagggtgcg 5280  
 cttcaggctc atccggctgg tcgagaaccg ctcccggtcg gcgccctcg cgtcggccag 5340  
 gtagcaattg agcatgagtt cgtagttgag cgcctcggcc gcgtggccct tggcgcgagg 5400  
 cttacctttg gaagtgtgtc cgagacggg acagaggagg gacttgaggg cgtagagctt 5460  
 gggggcgagg aagacggact cggggcgta ggcgtccgc ccgcagctgg cgagacggt 5520  
 ctgcactcc acgagccagg tgaggtcggg ccggttgggg tcaaaaacga ggtttcctcc 5580  
 gtgttttttg atgcgtttct tacctctggt ctccatgagc tcgtgtcccc gctgggtgac 5640  
 aaagaggctg tccgtgtccc cgtagaccga ctttatgggc cggtcctcga gcggggtgcc 5700  
 gcggtcctcg tcgtagagga accccgccc ctccgagacg aaggcccggg tccaggccag 5760  
 cacgaaggag gccacgtggg aggggtagcg gtcgttgtcc accagcgggt ccacctctc 5820  
 cagggtatgc aagcacatgt cccctcgtc cacatccagg aagggtgattg gcttgtaagt 5880  
 gtaggccacg tgaccggggg tcccggccgg gggggtataa aagggggcg gcccctgctc 5940  
 gtcctcactg tcttccggat cgctgtccag gagcgccagc tggtggggta ggtattccct 6000  
 ctgaaggct ggcataacct cggcactcag gttgtcagtt tctagaaacg aggaggattt 6060  
 gatattgacg gtgccgttg agacgccttt catgagcccc tcgtccatct ggtcagaaaa 6120  
 gacgatcttt ttgttgctga gcttggtggc gaaggagccg tagagggcgt tggagaggag 6180  
 cttggcgatg gagcgcatgg tctggttctt ttccttgctg gcgcgctcct tggcggcgat 6240  
 gttgagctgc acgtactcgc gcgccacgca cttccattcg gggaaagcgg tggtagctc 6300

gtcgggcacg attctgaccc gccagccgcg gttgtgcagg gtgatgaggt ccacgctggt	6360
ggccacctcg ccgcgcaggg gctcgttggt ccagcagagg cggccgccct tgcgcgagca	6420
gaaggggggc agcgggtcca gcatgagctc gtcggggggg tcggcgcca cggtgaagat	6480
gccgggcaga agctcggggt cgaagtagct gatgcagggtg tccagatcgt ccagcgccgc	6540
ttgccagtcg cgcacggcca gcgcgcgctc gtaggggctg aggggcgtgc cccagggcat	6600
gggggtgcgtg agcgcggagg cgtacatgcc gcagatgtcg tagacgtaga ggggctctc	6660
gaggacccg atgtagggtg ggtagcagcg ccccccgcg atgctggcg gcacgtagtc	6720
gtacagctcg tgcgagggcg cgaggagccc cgtgccgagg ttggagcgtt gcggcttttc	6780
ggcgcggtag acgatctggc ggaagatggc gtgggagttg gaggagatgg tgggctctg	6840
gaagatgttg aagtgggcgt ggggcaggcc gaccgagtc ctgatgaagt gggcgtagga	6900
gtcctgcagc ttggcgacga gctcggcggt gacgaggacg tccagggcgc agtagtcgag	6960
ggtctcttg atgatgtcgt acttgagctg gcccttctgc ttccacagct cgcggttgag	7020
aaggaaactct tcgcggctct tccagtactc ttcgaggggg aaccgcctct gatcggcacg	7080
gtaagagccc accatgtaga actggttgac ggccttgtag gcgcagcagc cttctccac	7140
ggggagggcg taagcttggtg cggccttgcg cagggaggtg tgggtgaggg cgaagggtgc	7200
gcgcaccatg accttgagga actggtgctt gaagtcgagg tcgtcgcagc cgcctgctc	7260
ccagagctgg aagtccgtgc gcttcttgta ggcgggggtg ggcaaagcga aagtaacatc	7320
gttgaaagagg atcttgcccc gcgcggggcat gaagttgcga gtgatgcgga aaggctgggg	7380
cacctcggcc cggttgttga tgacctgggc ggcgaggacg atctcgtcga agccgttgat	7440
gttgtgcccg acgatgtaga gttccacgaa tcgcgggcgg cccttaacgt ggggcagctt	7500
cttgagctcg tcgtagggtga gctcggcggg gtcgctgagc ccgtgctgct cgagggccca	7560
gtcggcgacg tgggggttg cgctgaggaa ggaagtccag agatccacgg ccagggcgggt	7620
ctgcaagcgg tcccgggtact gacggaactg ctggcccacg gccatTTTTT cgggggtgac	7680
gcagtagaag gtgcgggggt gcccgtgcca gcggtccac ttgagctgga gggcgaggtc	7740
gtgggcgagc tcgacgagcg gcgggtcccc ggagagtttc atgaccagca tgaaggggac	7800
gagctgcttg ccgaaggacc ccatccaggt gtaggtttcc acatcgtagg tgaggaagag	7860
cctttcggtg cgaggatgcg agccgatggg gaagaactgg atctcctgcc accagttgga	7920
ggaatggctg ttgatgtgat ggaagtagaa atgccgacgg cgcgccgagc actcgtgctt	7980
gtgtttatac aagcgtccgc agtgctcgca acgctgcagc ggatgcacgt gctgcacgag	8040
ctgtacctgg gttcctttga cgaggaattt cagtgggcag tggagcgctg gcggctgcat	8100
ctggtgctgt actacgtcct ggccatcggc gtggccatcg tctgcctcga tgggtggtcat	8160
gctgacgagc ccgcgcggga ggcagggtcca gacttcggct cggacggggtc ggagagcgag	8220
gacgagggcg cgcaggccgg agctgtccag ggtcctgaga cgctgcggag tcagggtcagt	8280
gggcagcggc ggcgcgcgggt tgacttgag gagcttttcc agggcgcgcg ggaggtccag	8340

atggtacttg atctccacgg cgccgttggt ggcgacgtcc acggcttgca ggggtcccgtg	8400
ccccctggggc gccaccaccg tgccccgttt cttcttgggc gctgcttcca tgccggtcag	8460
aagcggcggc gaggacgcgc gccgggcggc aggggcggct cgggacccgg aggcaggggc	8520
ggcaggggca cgtcggcgcc gcgcgcgggc aggttctggt actgcgcccg gagaagactg	8580
gcgtgagcga cgacgcgacg gttgacgtcc tggatctgac gcctctgggt gaaggccacg	8640
ggacccgtga gtttgaacct gaaagagagt tcgacagaat caatctcggg atcgttgacg	8700
gcggcctgcc gcaggatctc ttgcacgtcg cccgagttgt cctggtaggc gatctcggtc	8760
atgaactgct cgatctctc ctcctgaagg tctccgcggc cggcgcgctc gacggtggcc	8820
gcgaggtcgt tggagatgcg gcccatgagc tgcgagaagg cgttcatgcc ggcctcgttc	8880
cagacgcggc tntagaccac ggctccgtcg gggtcgcgcg cgcgcacgac cacctgggcg	8940
aggttgagct cgacgtggcg cgtgaagacc gcgtagttgc agaggcgctg gtagaggtag	9000
ttgagcgtgg tggcgatgtg ctcggtgacg aagaagtaca tgatccagcg gcggagcggc	9060
atctcgctga cgtcgcccag ggcttccaag cgctccatgg cctcgtagaa gtccacggcg	9120
aagttgaaaa actgggagtt gcgcgccgag acggtcaact cctcctccag aagacggatg	9180
agctcagcga tgggtggcgcg cacctcgcgc tcgaaggccc cgggggggctc ctcttcttcc	9240
atctcttcct cctccactaa catctcttct acttcctcct caggaggcgg cggcggggga	9300
ggggccctgc gtcgccggcg gcgcacgggc agacggtcga tgaagcgctc gatggtctcc	9360
ccgcgccggc gacgcacgtg ctcggtgacg gcgcgccgt cctcgcgggg ccgcagcgtg	9420
aagacgccgc cgcgcacgtc cagggtggccg ccgggggggt ctccgttggg cagggagagg	9480
gcgctgacga tgcattctat caattggccc gtagggactc cgcgcaagga cctgagcgtc	9540
tcgagatcca cgggatccga aaaccgctga acgaaggctt cgagccagtc gcagtcgcaa	9600
ggtaggctga gcccggtttc ttgttcttcg gggatttcgg gaggcgggcg ggcgatgctg	9660
ctggtgatga agttgaagta ggcggtcctg agacggcgga tgggtggcgag gagcaccagg	9720
tccttggggc cggcttgctg gatgcgcaga cggtcggcca tgccccaggc gtggtcctga	9780
cacctggcga ggtccttgta gtagtcctgc atgagccgct ccacgggcac ctctcctcg	9840
cccgcgcggc cgtgcatgcg cgtgagcccg aaccgcgct ggggctggac gagcgccagg	9900
tcggcgacga cgcgctcggc gaggatggcc tgctgtatct gggtagagggt ggtctggaag	9960
tcgtcgaagt cgacgaagcg gtggtaggct ccggtgttga tggatatagga gcagttggcc	10020
atgacggacc agttgacggt ctggtggccg ggtcgcacga gctcgtggtg cttgaggcgc	10080
gagtaggcgc gcgtgtcgaa gatgtagtcg ttgcaggtgc gcacgaggta ctggtatccg	10140
acgaggaaagt gcggcggcgg ctggcggtag agcggccatc gctcggtggt gggggcgccg	10200
ggcgcgaggt cctcgagcat gaggcggtgg tagccgtaga tgtacctgga catccagggtg	10260
atgccggcgg cgggtggtgga ggcgcgcggg aactcgcgga cgcggttcca gatgttgcgc	10320
agcggcagga agtagttcat ggtggccgcg gtctggcccg tgaggcgcgc gcagtcgtgg	10380
atgctctaga catacgggca aaaacgaaag cggtcagcgg ctcgactccg tggcctggag	10440

gctaagcgaa cggggttgggc tgcgcgtgta ccccggttcg aatctcgaat caggctggag 10500  
ccgcagctaa cgtggtactg gcaactccgt ctcgacccaa gcctgctaac gaaacctcca 10560  
ggatacggag gcgggtcgtt ttttggcctt ggtcgcgtgt catgaaaaac tagtaagcgc 10620  
ggaaagcgac cgcccgcgat ggctcgcctg cgtagtctgg agaaagaatc gccagggttg 10680  
cgttgcggtg tgccccggtt cgagcctcag cgctcggcgc cggccggatt ccgcggctaa 10740  
cgtgggcgtg gctgccccgt cgtttccaag accccttagc cagccgactt ctccagttac 10800  
ggagcgagcc cctctttttt ttgtgttttt gccagatgca tcccgtactg cggcagatgc 10860  
gccccaccc tccacctcaa ccgcccctac cgccgcagca gcagcaacag ccggcgcttc 10920  
tgccccgcc ccagcagcag ccagccacta ccgcggcggc cgccgtgagc ggagccggcg 10980  
ttcagtatga cctggccttg gaagagggcg aggggctggc gcggctgggg gcgtcgtcgc 11040  
cggagcggca ccgcgcgtg cagatgaaaa gggacgctcg cgaggcctac gtgccaagc 11100  
agaacctgtt cagagacagg agcggcgagg agcccgagga gatgcgcgcc tcccgcttcc 11160  
acgcggggcg ggagctgcgg cgcggccttg accgaaagcg ggtgctgagg gacgaggatt 11220  
tcgaggcgga cgagctgacg gggatcagcc ccgcgcgcgc gcacgtggcc gcggccaacc 11280  
tggtcacggc gtacgagcag accgtgaagg aggagagcaa cttccaaaaa tccttcaaca 11340  
accacgtgcg cacgctgatc gcgcgcgagg aggtgaccct gggcctgatg cacctgtggg 11400  
acctgctgga ggccatcgtg cagaacccca cgagcaagcc gctgacggcg cagctgtttc 11460  
tggtggtgca gcacagtcgg gacaacgaga cgttcaggga ggcgctgctg aatatcaccg 11520  
agcccgaggg ccgctggctc ctggacctgg tgaacattct gcagagcatc gtggtgcagg 11580  
agcgcgggct gccgctgtcc gagaagctgg cggctatcaa cttctcggtg ctgagcctgg 11640  
gcaagtacta cgctaggaag atctacaaga ccccgctacgt gcccatagac aaggagggtga 11700  
agatcgacgg gttttacatg cgcgatgacc tgaaagtgct gaccctgagc gacgatctgg 11760  
gggtgtaccg caacgacagg atgcaccgcg cggtagcgc cagccgccgg cgcgagctga 11820  
gcgaccagga gctgatgcac agcctgcagc gggccctgac cggggccggg accgaggggg 11880  
agagctactt tgacatgggc gcggacctgc gctggcagcc cagccgccgg gccttggaag 11940  
ctgccggcgg tttcccctac gtggaggagg tggacgatga ggaggaggag ggcgagtacc 12000  
tggaagactg atggcgcgac cgtatttttg ctagatgcag caacagccac cgcctcctga 12060  
tcccgcgatg cgggcggcgc tgacagacca gccgtccggc attaactcct cggacgattg 12120  
gaccaggcc atgcaacgca tcatggcgct gacgaccgc aatcccgaag cttttagaca 12180  
gcagcctcag gccaacggc tctcgccat cctggaggcc gtggtgccct cgcgctcgaa 12240  
ccccacgcac gagaagggtg tggccatcgt gaacgcgctg gtggagaaca aggccatccg 12300  
cggcgacgag gccgggctgg tgtacaacgc gctgctggag cgcgtagggc gctacaacag 12360  
caccaacgtg cagacgaacc tggaccgat ggtgaccgac gtgcgcgagg cggtgtcgca 12420  
gcgcgagcgg ttccaccgcg agtcgaacct gggctccatg gtggcgctga acgccttcct 12480

gagcacgcag cccgccaacg tgccccgggg ccaggaggac tacaccaact tcatcagcgc 12540  
gctgcggctg atggtggccg aggtgcccc gagcgaggtg taccagtcgg ggccggacta 12600  
cttcttccag accagtcgcc agggcttgca gaccgtgaac ctgagccagg ctttcaagaa 12660  
cttgcaggga ctgtggggcg tgcaggcccc ggctggggac cgcgcgacgg tgtcagacct 12720  
gctgacgccg aactcgcgcc tgctgctgct gctggtggcg cccttcacgg acagcggcag 12780  
cgtgagccgc gactcgtacc tgggctacct gcttaacctg taccgcgagg ccacgggca 12840  
ggcgcacgtg gacgagcaga cctaccagga gatcacccac gtgagccgcg cgctgggcca 12900  
ggaggacccg ggcaacctgg agggcacccct gaacttcctg ctgaccaacc ggtcgcagaa 12960  
gatcccgccc cagtacgcgc tgagcaccga ggaggagcgc atcctgcgct acgtgcagca 13020  
gagcgtgggg ctgttcctga tgcaggaggg ggccacgccc agcgcgcgc tcgacatgac 13080  
cgcgcgaac atggagccca gcatgtacgc tcgcaaccgc ccgttcatca ataagctgat 13140  
ggactacttg catcgggagg ccgccatgaa ctccgactac ttaccaacg ccactctgaa 13200  
cccgcaactg ctcccgccgc ccgggttcta cacgggagag tacgacatgc ccgaccccaa 13260  
cgacgggttc ctgtgggacg acgtggacag cagcgtgttc tcgccgcgc ccgccaccac 13320  
cgtgtggaag aaagagggcg gggaccggcg gccgtcctcg gcgctgtccg gtcgcgcggg 13380  
tgctgccgcg gcggtgcctg aggcggccag ccccttccc agcctgccct tttcgctgaa 13440  
cagcgtgcgc agcagcgagc tgggtcggct gacgcggccg cgctgtctgg gcgaggagga 13500  
gtacctgaac gactccttgt tgaggcccg gcgcgagaag aacttccca ataacgggat 13560  
agagagcctg gtggacaaga tgagccgctg gaagacgtac gcgcacgagc acagggacga 13620  
gccccgagct agcagcagcg caggcacccg tagacgccag cgacacgaca ggcagcgggg 13680  
tctggtgtgg gacgatgagg attccgccga cgacagcagc gtgttgact tgggtgggag 13740  
tggtgtgtgt aaccgttcg ctacttgcg ccccggtatc gggcgctga tgtaagaatc 13800  
tgaaaaata aaaaacggta ctcaccaagg ccatggcgac cagcgtgcgt tcttctctgt 13860  
tgtttgtagt agtatgatga ggcgcgtgta cccggagggg cctcctccct cgtacgagag 13920  
cgtgatgcag caggcgggtg cggcggcgat gcagcccccg ctggaggcgc cttacgtgcc 13980  
cccgcggtac ctggcgcta cggaggggag gaacagcatt cgttactcgg agctggcacc 14040  
cttgtagcat accaccgggt tgtacctggt ggacaacaag tcggcggaca tcgcctcgct 14100  
gaactaccag aacgaccaca gcaacttcct gaccaccgtg gtgcagaaca acgatttcac 14160  
ccccacggag gccagacccc agaccatcaa ctttgacgag cgctcgcggt ggggcggcca 14220  
gctgaaaacc atcatgcaca ccaacatgcc caacgtgaac gagttcatgt acagcaacaa 14280  
gttcaaggcg cgggtgatgg tctcgcgcaa gaccccaat ggggtcgcgg tggatgagaa 14340  
ttatgatggt agtcaggacg agctgactta cgagtgggtg gagtttgagc tgcccagagg 14400  
caacttctcg gtgaccatga ccatcgtatc gatgaacaac gccatcatcg acaactactt 14460  
ggcgggtggg cgtcagaacg ggggtgctgga gagcgacatc ggcgtgaagt tcgacacgcg 14520  
caacttccgg ctgggctggg acccgtgac cgagctggtg atgccgggag tgtagaccaa 14580

cgaggccttc caccgagaca tcgtcctgct gcccggtgc ggcgtggact tcaccgagag 14640  
ccgcctcagc aacctgctgg gcatccgcaa gcggcagccc ttccaggagg gcttccagat 14700  
cctgtacgag gacctggagg ggggcaacat cccgcgctc ttggatgtcg aagcctatga 14760  
gaaaagcaag gaggaggccg ccgcagcggc gaccgcagcc gtggccaccg cctctaccga 14820  
ggtgcggggc gataattttg ctagcgccgc ggcagtggcc gaggcggctg aaaccgaaag 14880  
taagatagtc atccagccgg tggagaagga cagcaaggac aggagctaca acgtgctcgc 14940  
ggacaagaaa aacaccgcct accgcagctg gtacctggcc tacaactacg gcgaccccg 15000  
gaagggcggtg cgctcctgga cgctgctcac cacctcggac gtcacctgcg gcgtggagca 15060  
agtctactgg tcgtgccccg acatgatgca agaccgggtc acctccgct ccacgcgtca 15120  
agttagcaac taccgggtgg tgggcgcga gctcctgccc gtctactcca agagcttctt 15180  
caacgagcag gccgtctact cgcagcagct gcgcgccttc acctcgctca cgcacgtctt 15240  
caaccgcttc cccgagaacc agatcctcgt ccgcccgcgc gcgcccacca ttaccaccgt 15300  
cagtga aaac gttcctgctc tcacagatca cgggaccctg ccgctgcgca gcagtatccg 15360  
gggagtccag cgctgaccg tcaactgacgc cagacccgc acctgcccct acgtctacaa 15420  
ggccctgggc gtagtcgcgc cgcgcgtcct ctcgagccgc accttctaaa aaatgtccat 15480  
tctcatctcg cccagtaata acaccggtt gggcctgcgc gcgcccagca agatgtacgg 15540  
aggcgctcgc caacgctcca cgcaacaccc cgtgcgcgtg cgcgggcact tccgcgctcc 15600  
ctggggcgcc ctcaagggcc gcgtgcgctc gcgcaccacc gtcgacgacg tgatcgacca 15660  
ggtggtggcc gacgcgcgca actacacgcc cgccgccgcg cccgcctcca ccgtggacgc 15720  
cgatcatcgac agcgtggtgg ccgatgcgcg ccggtacgcc cgcgccaaga gccggcgcg 15780  
gcgcatcgcc cggcggcacc ggagcacccc cgccatgcgc gcggcgcgag ccttgctgcg 15840  
cagggccagg cgcacgggac gcagggccat gctcagggcg gccagacgcg cggcctccgg 15900  
cagcagcagc gccggcagga cccgcagacg cgcgccacg gcggcgggcg cggccatcgc 15960  
cagcatgtcc cgcccgcggc gcggcaacgt gtactgggtg cgcgacgccg ccaccggtgt 16020  
gcgcgtgccc gtgcgcaccc gccccctcg cactgaaga tgctgacttc gcgatgttga 16080  
tgtgtcccag cggcgaggag gatgtccaag cgcaaatata aggaagagat gctccaggtc 16140  
atcgcgctg agatctacgg cccgcgggtg aaggaggaaa gaaagccccg caaactgaag 16200  
cgggtcaaaa aggacaaaaa ggaggaggaa gatgtggacg gactggtgga gtttgtgcgc 16260  
gagttcgccc cccggcgggc cgtgcagtgg cgcgggcgga aagtgaacc ggtgctgcg 16320  
cccggcacca cgggtgtctt cacgcccggc gagcgttccg gctccgcctc caagcgctcc 16380  
tacgacgagg tgtacgggga cgaggacatc ctcgagcagg cggtcgagcg tctgggag 16440  
tttgcttacg gcaagcgag ccgccccgcg ccctgaaag aggaggcggg gtccatccc 16500  
ctggaccacg gcaacccac gccgagcctg aagccggtga ccctgcagca ggtgctgccg 16560  
agcgcggcgc cgcgcggggg cttcaagcgc gagggcgcg aggatctgta cccgaccatg 16620

cagctgatgg tgcccaagcg ccagaagctg gaggacgtgc tggagcacat gaaggtggac 16680  
cccgaggtgc agcccgaggt caaggtgctg cccatcaagc aggtggcccc gggcctgggc 16740  
gtgcagaccg tggacatcaa gatccccacg gagcccatgg aaacgcagac cgagcccgtg 16800  
aagcccagca ccagcaccat ggaggtgcag acggatccct ggatgccggc gccggcttcc 16860  
accactcgcc gaagacgcaa gtacggcgcg gccagcctgc tgatgcccaa ctacgcgctg 16920  
catccttcca tcatccccac gccgggctac cgcggcacgc gcttctaccg cggctacacc 16980  
agcagccgcc gcaagaccac caccgcccgc cgccgtcgtc gcaccgccg cagcagcacc 17040  
gcgacttccg ccgccgccct ggtgcggaga gtgtaccgca gcgggcgcga gcctctgacc 17100  
ctgccgcgcg cgcgctacca cccgagcatc gccatttaac tctgccgtcg cctcctactt 17160  
gcagatatgg ccctcacatg ccgcctccgc gtccccatta cgggctaccg aggaagaaaag 17220  
ccgcgccgta gaaggctgac ggggaacggg ctgcgtcgcc atcaccaccg gcggcggcgc 17280  
gccatcagca agcggttggg gggaggcttc ctgccgcgc tgatcccat catcgccgcg 17340  
gcgatcgggg cgatccccgg catagcttcc gtggcggtgc aggcctctca gcgccactga 17400  
gacacagctt ggaaaatttg taataaaaaa atggactgac gctcctggtc ctgtgatgtg 17460  
tgtttttaga tggaagacat caatttttcg tccctggcac cgcgacacgg cacgcggccg 17520  
tttatgggca cctggagcga catcggaac agccaactga acggggggcg cttcaattgg 17580  
agcagtctct ggagcgggct taagaatttc ggtccacgc tcaaaccta tggcaacaag 17640  
gcgtggaaca gcagcacagg gcaggcgctg agggaaaagc tgaaagagca gaacttccag 17700  
cagaaggtgg tcgatggcct ggcctcgggc atcaacgggg tggtagacct ggccaaccag 17760  
gccgtgcaga aacagatcaa cagccgcctg gacgcggtcc cgcccgcggg gtccgtggag 17820  
atgccccagg tggaggagga gctgcctccc ctggacaagc gcggcgacaa gcgaccgcgt 17880  
cccgcgcgg aggagacgct gctgacgcac acggacgagc cgccccgta cgaggaggcg 17940  
gtgaaactgg gtctgcccac cacgcggccc gtggcgctc tggccaccgg ggtgctgaaa 18000  
cccagcagca gcagccagcc cgcgaccctg gacttgctc cgctgcttc ccgcccctcc 18060  
acagtggcta agcccctgcc gccggtggcc gtcgcgtcgc gcgcccccg aggcgcgccc 18120  
caggcgaact ggcagagcac tctgaacagc atcgtgggtc tgggagtga gagtgtgaag 18180  
cgccgcgct gctattaaaa gacactgtag cgcttaactt gcttgtctgt gtgtatatgt 18240  
atgtccgccg accagaagga ggaagaggcg cgtcgccgag ttgcaagatg gccaccccat 18300  
cgatgctgcc ccagtgggcg tacatgcaca tcgccggaca ggacgcttcg gagtacctga 18360  
gtccgggtct ggtgcagttc gcccgcgcca cagacaccta cttcagtctg gggacaagt 18420  
ttaggaaccc cagggtggcg ccacgcacg atgtgaccac cgaccgcagc cagcggctga 18480  
cgctgcgctt cgtgcccgtg gaccgcgagg acaacaccta ctcgtacaaa gtgcgctaca 18540  
cgctggccgt gggcgacaac cgcggtgctg acatggccag cacctacttt gacatccgcg 18600  
gcgtgctgga tcggggggcc agcttcaaac cctactccgg caccgcctac aacagcctgg 18660  
ctcccaaggg agcgcccaac acttgccagt ggacatataa agctggtgat actgatacag 18720

aaaaaaccta tacatatgga aatgcacctg tgcaaggcat tagcattaca aaggatggta 18780  
ttcaacttgg aactgacagc gatggtcagg caatctatgc agacgaaact tatcaaccag 18840  
agcctcaagt gggatgatgct gaatggcatg acatcactgg tactgatgaa aaatatggag 18900  
gcagagctct taagcctgac accaaaatga agccttgcta tggttctttt gccaagccta 18960  
ccaataaaga aggaggccag gcaaatgtga aaaccgaaac aggcgggtacc aaagaatatg 19020  
acattgacat ggcattcttc gataatcgaa gtgcagctgc cgccggccta gccccagaaa 19080  
ttgttttgta tactgagaat gtggatctgg aaactccaga taccatatt gtatacaagg 19140  
caggtagaca tgacagtagc tcttctatca atttgggtca gcagtccatg cccaacagac 19200  
ccaactacat tggcttcaga gacaacttta tcggtctgat gtactacaac agcactggca 19260  
atatgggtgt actggctgga caggcctccc agctgaatgc tgtgggtggac ttgcaggaca 19320  
gaaacaccga actgtcctac cagctcttgc ttgactctct ggggtgacaga accagggtatt 19380  
tcagtatgtg gaatcaggcg gtggacagtt atgaccccgga tgtgcgcatt attgaaaatc 19440  
acggtgtgga ggatgaactt cctaactatt gcttccccct ggatgctgtg ggtagaactg 19500  
atacttacca gggaattaag gccaatgggtg ataatcaaac cacctggacc aaagatgata 19560  
ctgttaatga tgctaataag ttgggcaagg gcaatccttt cgccatggag atcaacatcc 19620  
aggccaacct gtggcggaac ttctcttacg cgaacgtggc gctgtacctg cccgactcct 19680  
acaagtacac gccggccaac atcacgctgc ccaccaacac caacacctac gattacatga 19740  
acggccgcgt ggtggcgccc tcgctgggtg agcctacat caacatcggg gcgcgctggt 19800  
cgctggaccc catggacaac gtcaaccctt tcaaccacca ccgcaacgcg ggccctgcgat 19860  
accgctccat gtcctgggc aacgggcgct acgtgccctt ccacatccag gtgccccaaa 19920  
agtttttcgc catcaagagc ctctgtctcc tgcccgggtc ctacacctac gagtggaaact 19980  
tccgcaagga cgtcaacatg atcctgcaga gctccctcgg caacgacctg cgcacggacg 20040  
gggcctccat cgccttcacc agcatcaacc tctacgccac cttcttcccc atggcgcaca 20100  
acaccgcctc cagctcgag gccatgctgc gcaacgacac caacgaccag tccttcaacg 20160  
actacctctc ggcgccaac atgctctacc ccatcccggc caacgccacc aacgtgccca 20220  
tctccatccc ctgcgcaac tgggcccgtt tccgcggtg gtccttcacg cgcctcaaga 20280  
cccgcgagac gccctcgtc gggtccgggt tcgaccctta cttcgtctac tcgggctcca 20340  
tcccctacct cgacggcacc ttctacctca accacacctt caagaaggct tccatcacct 20400  
tcgactcctc cgtcagctgg cccggcaacg accgcctcct gacgccaac gaggtcgaaa 20460  
tcaagcgcac cgtcgacgga gaggggtaca acgtggccca gtgcaacatg accaaggact 20520  
ggttcctggt ccagatgctg gccactaca acatcggtta ccagggttc tacgtgcccg 20580  
agggctacaa ggaccgcatg tactccttct tccgcaactt ccagcccatg agccgccagg 20640  
tcgtggacga ggtcaactac aaggactacc aggccgtcac cctggcctac cagcacaaca 20700  
actcgggctt cgtcggctac ctgcgcccc ccatgcgcca gggccagccc taccgccca 20760

actacccta cccgctcatc ggcaagagcg ccgtcgccag cgtcacccag aaaaagttcc 20820  
tctgcgaccg ggtcatgtgg cgcattcccct tctccagcaa cttcatgtcc atgggcgcg 20880  
tcaccgacct cggccagaac atgtcttacg ccaactccgc ccacgcgcta gacatgaatt 20940  
tcgaagtcga ccccatggat gagtcacccc ttctctatgt tgtcttcgaa gtcttcgacg 21000  
tcgtccgagt gcaccagccc caccgcggcg tcatcgaggc cgtctacctg cgcacgccct 21060  
tctcgggcgg caacgccacc acctaacctt cttgtttctt gcaagatgac ggcttgcgcg 21120  
ggctccggcg agcaggagct cagggccatc ctccgcgacc tgggctgcgg gccctgcttc 21180  
ctgggcacct tcgacaagcg cttcccggga ttcatggccc cgcacaagct ggcttgcgcc 21240  
atcgtcaaca cggccggccg cgagaccggg ggcgagcact ggctggcctt cgcctggaac 21300  
ccgcgtccc acacctgcta cctcttcgac cccttcgggt tctcggacga gcgcctcaag 21360  
cagatctacc agttcgagta cgagggcctg ctgcgtcgca gcgcctggc caccgaggac 21420  
cgctgcgtca ccctggaaaa gtccaccag accgtgcagg gtccgcgctc ggccgcctgc 21480  
gggtctttct gctgcagtgt cctgcacgcc ttctgtcact ggcccgaccg ccccatggac 21540  
aagaaccca ccatgaactt gctgacgggg gtgccaacg gcatgctcca gtcgccccag 21600  
gtggaacca ccctgcgcg caaccaggag gcgctctacc gcttcctcaa cgcctactcc 21660  
gcctactttc gctcccaccg cgcgcgcatc gagaaggcca ccgccttcga ccgcatgaat 21720  
caagacatgt aatccggtgt gtgtatgtga atgctttatt catcataata aacagcacat 21780  
gtttatgcca cttctctga ggctctgact ttatttagaa atcgaagggg ttctgcccgc 21840  
tctcggcatg gcccgcgggc agggatacgt tgcggaactg gtacttgggc agccacttga 21900  
actcggggat cagcagcttc ggcacgggga ggctcgggaa cgagtcgctc cacagcttgc 21960  
gcgtgagttg cagggcgccc agcaggctcg gcgcggagat cttgaaatcg cagttgggac 22020  
ccgcgtttctg cgcgcgagag ttacgggtaca cggggttgca gactggaac accatcaggg 22080  
ccgggtgctt cagctcgcg agcaccgtcg cgtcgggtgat gccctccacg tccagatcct 22140  
cggcgttggc catcccgaag ggggtcatct tgcaggctctg ccgccccatg ctgggcacgc 22200  
agccgggctt gtggttgcaa tcgcagtga ggggatcag catcatctgg gcctgctcg 22260  
agctcatgcc cgggtacatg gccttcatga aagcctccag ctggcggaag gcctgctcg 22320  
ccttgccgc ctcggtgaag aagaccccg aggacttgct agagaactgg ttggtggcg 22380  
agccagcgtc gtgcacgcag cagcgcgct cgttgttggc cagctgcacc acgtgcgc 22440  
cccagcgggt ctgggtgatc ttggcccggt cggggttctc cttcagcgcg cgtgcccgt 22500  
tctcgtcgc cacatccatc tcgatcgtgt gtccttctg gatcatcacg gtcccgtgca 22560  
ggcaccgcag cttgccctcg gcctcgggtg acccgtgcag ccacagcgcg cagccgggtg 22620  
tctcccagtt cttgtgggcg atctgggagt gcgagtgcac gaagccctgc aggaagcggc 22680  
ccatcatcgt ggtcagggtc ttgttgctgg tgaaggctcag cggaatgccg cgggtgctcct 22740  
cgttcacata cagggtggcag atacggcggt acacctgcg ctgctcgggc atcagctgga 22800  
aggcggactt caggctcgtc tccacgcggt accggtccat cagcagcgtc atcacttcca 22860

tgcccttctc ccaggccgaa acgatcggca ggctcagggg gttcttcacc gttgtcatct 22920  
tagtcgccgc cgccgaagtc aggggggtcgt tctcgtccag ggtctcaaac actcgttgc 22980  
cgctcttctc ggtgatgcgc acggggggaa agctgaagcc cacggccgcc agctcctcct 23040  
cggcctgcct ttcgtcctcg ctgtcctggc tgatgtcttg caaaggcaca tgcttggtct 23100  
tgcgggggtt ctttttgggc ggcagaggcg gcggcggaga cgtgctgggc gagcgcgagt 23160  
tctcgtcac cacgactatt tcttctcctt ggccgtcgtc cgagaccacg cggcggtagg 23220  
catgcctctt ctggggcaga ggcggaggcg acgggctctc gcggttcggc gggcggtg 23280  
cagagcccct tccgcgttcg ggggtgcgct cctggcggcg ctgctctgac tgacttcctc 23340  
cgcgcccggc cattgtgttc tcctagggag caagcatgga gactcagcca tcgtcgccaa 23400  
catcgccatc tgccccgcc gccgccgacg agaaccagca gcagcagaat gaaagcttaa 23460  
ccgccccgcc gccagcccc acctccgacg ccgcagcccc agacatgcaa gagatggagg 23520  
aatccatcga gattgacctg ggctacgtga cggccgcgga gcacgaggag gagctggcag 23580  
cgcgcttttc agccccgga gagaaccacc aagagcagcc agagcaggaa gcagagagcg 23640  
agcagaacca ggctgggctc gagcatggcg actacctgag cggggcagag gacgtgctca 23700  
tcaagcatct ggcccgccaa tgcacatcgc tcaaggacgc gctgctcgac cgcgccgagg 23760  
tgccccctag cgtggcgag ctacgcccgc cctacgagcg caacctcttc tcgcccgcgc 23820  
tgccccccaa gcgcccagccc aacggcacct gcgagcccaa cccgcgcctc aacttctacc 23880  
cggctcttcgc ggtgcccag gcccctggcca cctaccacct ctttttcaag aaccaaagga 23940  
tccccgtctc ctgcccgcgc aaccgcaccc gcgcccacgc cctgctcaac ctgggccccg 24000  
gcgcccgcct acctgatatc gcctccttgg aagaggttcc caagatcttc gagggctctg 24060  
gcagcgacga gactcgggcc gcgaacgctc tgcaaggaa cggagaggag catgagcacc 24120  
acagcgccct ggtggagtgt gaaggcgaca acgcgcgcct ggcggctcctc aagcgcacgg 24180  
tcgagctgac ccacttcgcc taccggcggc tcaacctgcc cccaaggctc atgagcgccg 24240  
tcatggacca ggtgctcatc aagcgcgcct cggccctctc ggaggaggag atgcaggacc 24300  
ccgagagctc ggacgagggc aagcccgtgg tcagcgacga gcagctggcg cgctggctgg 24360  
gagcgagtag cccccccag agcctggaag agcggcgcaa gctcatgatg gccgtggtcc 24420  
tggtgaccgt ggagctggag tgtctgcgc gcttcttcgc cgacgcggag accctgcgca 24480  
aggtcgagga gaacctgcac tacctcttca gacacgggtt cgtgcgccag gcctgcaaga 24540  
tctccaacgt ggagctgacc aacctggtct cctacatggg catcctgcac gagaaccgcc 24600  
tggggcagaa cgtgctgcac accaccctgc gcggggaggc ccgccgcgac tacatccgcg 24660  
actgcgtcta cctgtacctc tgccacacct ggcagacggg catgggctgt tggcagcagt 24720  
gcctggagga gcagaacctg aaagagctct gcaagctcct gcagaagaac ctcaaggccc 24780  
tgtggaccgg gttcgacgag cgcaccaccg ccgcggacct ggccgacctc atcttccccg 24840  
agcgccctgc gctgacgctg cgcaacgggc tgcccactt tatgagccaa agcatgttgc 24900

aaaacttttcg ctctttcatc ctggaacgct ccgggatcct gcccgccacc tgctccgcgc 24960  
tgccctcgga cttcgtgccg ctgaccttcc gcgagtcccc cccgccgctc tggagccact 25020  
gctacctgct gcgcctggcc aactacctgg cctaccactc ggacgtgatc gaggacgtca 25080  
gcggcgaggg cctgctcgag tgccactgcc gctgcaacct ctgcacgccg caccgctccc 25140  
tggcctgcaa cccccagctg ctgagcgaga ccagatcat cggcaccttc gagttgcaag 25200  
gccccggcga gggcaagggg ggtctgaaac tcaccccggg gctgtggacc tcggcctact 25260  
tgcgcaagtt cgtgcccag gactaccatc ctttcgagat caggttctac gaggaccaat 25320  
cccagccgcc caaggccgag ctgtcggcct gcgtcatcac ccagggggcc atcctggccc 25380  
aattgcaagc catccagaaa tcccgccaag aatttctgct gaaaaagggc cacgggggtct 25440  
acttggaacc ccagaccgga gaggagctca accccagctt cccccaggat gccccgagga 25500  
agcagcaaga agctgaaagt ggagctgccg ccgccgccgg aggatattgga ggaagactgg 25560  
gagagcagtc aggagagga ggaggagatg gaagactggg acagcactca ggcagaggag 25620  
gacagcctgc aagacagtct ggaggaggaa gacgaggtgg aggaggcaga ggaagaagca 25680  
gccgccgcca gaccgtcgtc ctcgccggag gaggagaaag caagcagcac ggataccatc 25740  
tccgctccgg gtcggggctg cggcgccggg gcccacagta gatgggacga gaccgggcgc 25800  
tccccgaacc ccaccacca gaccggtaag aaggagcggc agggatacaa gtcctggcgg 25860  
gggcacaaaa acgccatcgt ctctgtcttg caagcctgcg ggggcaacat ctcttccacc 25920  
cggcgctacc tgctcttcca ccgcgggggtg aacttcccc gcaacatctt gcattactac 25980  
cgtcacctcc acagccccta ctactgtttc caagaagagg cagaaaccca gcagcagcag 26040  
cagcagcaga aaaccagcgg cagcagctag aaaatccaca gcggcggcag gtggactgag 26100  
gatcgcgcg aacgagccgg cgcagaccgg ggagctgagg aaccggatct tccccaccct 26160  
ctatgccatc ttccagcaga gtcgggggca agagcaggaa ctgaaagtca agaaccgttc 26220  
tctgcgctcg ctaccccgca gttgtctgta tcacaagagc gaagaccaac ttcagcgcac 26280  
tctcaggagc gccgaggctc tcttcaacaa gtactgcgcg ctactctta aagagtagcc 26340  
cgcgcccgc cacacacgga aaaaggcggg aattacgtca ccacctgcgc ctttcgcccg 26400  
accatcatca tgagcaaaga gattcccacg cttacatgt ggagctacca gccccagatg 26460  
ggcctggccg ccggcgccgc ccaggactac tccaccgcga tgaactggct cagtgccggg 26520  
cccgcgatga tctcacgggt gaatgacatc cgcgccacc gaaaccagat actcctagaa 26580  
cagtcaagca tcaccgccac gccccgccat caccttaatc cgcgtaattg gcccgcgcgc 26640  
ctggtgtacc aggaattcc ccagcccacg accgtactac ttccgcgaga cggccaggcc 26700  
gaagtccagc tgactaactc aggtgtccag ctggccggcg gcgccgccct gtgtcgtcac 26760  
cgccccgctc aggtataaaa gcggctggtg atccgaggca gaggcacaca gctcaacgac 26820  
gagggtggtga gctcttcgct ggggtctgca cctgacggag tcttccaact cgccggatcg 26880  
gggagatctt cttcacgcc tcgtcaggcc gtcctgactt tggagagttc gtcctcgag 26940  
ccccgctcgg gtggcatcgg cactctccag ttcgtggagg agttcactcc ctcgggtctac 27000

ttcaaccctt tctccggctc ccccgggcac tacccggacg agttcatccc gaacttcgac 27060  
 gccatcagcg agtcggtgga cggctacgat tgaatgtccc atggtggcgc ggctgacctt 27120  
 gctcggcttc gacacctgga ccaactgccg cgcttccgct gcttcgctcg ggatctcgcc 27180  
 gagtttgctt actttgagct gcccggaggag caccctcagg gcccggccca cggagtgcgg 27240  
 atcgtcgtcg aagggggtct cgactccac ctgcttcgga tcttcagcca gcgtccgatc 27300  
 ctggccgagc gcgagcaagg acagaccctt ctgacctgt actgcatctg caaccacccc 27360  
 ggcttgcagt aaagtctttg ttgtctgctg tgtactgagt ataataaaag ctgagatcag 27420  
 cgactactcc ggacttccgt gtgttcctgc tatcaaccag tccctgttct tcaccgggaa 27480  
 cgagaccgag ctccagctcc agtgtaagcc ccacaagaag tacctcacct ggctgttcca 27540  
 gggctctccg atcgccgttg tcaaccactg cgacaacgac ggagtcctgc tgagcggccc 27600  
 tgccaacctt actttttcca cccgcagaag caagtccag ctcttccaac ccttcctccc 27660  
 cgggacctat cagtgcgtct cgggaccctg ccatcacacc ttccacctga tcccgaatac 27720  
 cacagcgtcg ctccccgta ctaacaacca aactaccac caacgccacc gtcgcgacct 27780  
 ttctcttggg tctaatacca ctaccggagg tgagctccga ggtcgaccaa cctctgggat 27840  
 ttactacggc ccctgggagg tggtaggggt aatagcgcta ggcttagttg cgggtgggct 27900  
 tttggctctc tgctacctat acctcccttg ctgttcgtac ttagtggtgc tgtgttgctg 27960  
 gtttaagaaa tggggaagat caccctagt agctgcggtg tgctggtggc ggtggtgctt 28020  
 tcgattgtgg gactgggagg cgcggtgta gtgaaggaga aggccgatcc ctgcttgcag 28080  
 ttcaatcccg acaaatgcc gctgagtttt cagcccgatg gcaatcggtg cgcggtgctg 28140  
 atcaagtgcg gatgggaatg cgagaacgtg agaatcgagt acaataacaa gactcggaac 28200  
 aatactctcg cgtccgtgtg gcagcccggg gaccccgagt ggtacaccgt ctctgtcccc 28260  
 ggtgctgacg gctccccg cgacctgaat aatactttca tttttgcgca catgtgcgac 28320  
 acggtcatgt ggatgagcaa gcagtacgat atgtggcccc ccacgaagga gaacatcgtg 28380  
 gtcttctcca tcgcttacag cgtgtgcacg gcgctaata cgcctatcgt gtgcctgagc 28440  
 attcacatgc tcatcgctat tcgccccaga aataatgccg aaaaagaaaa acagccataa 28500  
 cacgtttttt cacacacctt ttccagacca tggcctctgt taaatttttg cttttatttg 28560  
 ccagtctcat tgccgtcatt catggaatga gtaatgagaa aattactatt tacactggca 28620  
 ctaatcacac attgaaaggc ccagaaaaag ccacagaagt ttcattggtat tgtattttta 28680  
 atgaatcaga tgtatctact gaactctgtg gaaacaataa caaaaaaat gagagcatta 28740  
 ctctcatcaa gtttcaatgt ggatctgact taaccctaata taacatcact agagactatg 28800  
 taggtatgta ttatggaact acagcaggca tttcggacat ggaattttat caagtttctg 28860  
 tgtctgaacc caccacgcct agaatgacca caaccacaaa aactacacct gttaccacta 28920  
 tacagctcac taccaatggc tttcttgcca tgcttcaagt ggctgaaaat agcaccagca 28980  
 ttcaaccac cccaccagc gaggaattc ccagatccat gattggcatt attgttgctg 29040

tagtggtgtg catgttgatc atcgccttgt gcatggtgta ctatgccttc tgctacagaa 29100  
 agcacagact gaacgacaag ctggaacact tactaagtgt tgaattttaa ttttttagaa 29160  
 ccatgaagat cctaggcctt ttagtttttt ctatcattac ctctgctcta tgcaattctg 29220  
 acaatgagga cggtactgtc gttgtcggat caaattatac actaaaaggc ccagcaaaag 29280  
 gtatgctttc gtggtattgt tgggttcggaa ctgacgagca acagacagaa ctttgcaatg 29340  
 ctcaaaaagg caaaacctca aattctaaaa tctctaatta tcaatgcaat ggcactgact 29400  
 tagtattgct caatgtcacg aaagcatatg ctggcagtta cacctgccct ggagatgatg 29460  
 ccgacaatat gatttttttac aaagtggag tgggttgatcc cactactcca ccgcccacca 29520  
 ccacaactac tcataccaca cacacagaac aaacaccaga ggcagcagaa gcagagttgg 29580  
 ccttccaggt tcacggagat tcctttgctg tcaatacccc tacacccgat cagcgggtgtc 29640  
 cggggctgct cgtcagcggc attgtcgggt tgctttcggg attagcagtc ataatacatc 29700  
 gcatgttcat ttttgcttgc tgctatagaa ggctttaccg acaaaaatca gaccactgac 29760  
 tgaacctcta tgtttaattt tttccagagc catgaaggca gtttagcgctc tagttttttg 29820  
 ttctttgatt ggcatgtgtt ttagtgctgg gtttttgaaa aatcttacca tttatgaagg 29880  
 tgagaatgcc actctagtg gcatcagtg tcaaaatgtc agctggctaa aataccatct 29940  
 agatgggtgg aaagacattt gcgattggaa tgtcactgtg tatacatgta atggagttaa 30000  
 cctcaccatt actaatgcc aaccaagatca gaatggtagg ttttaaggcc agagtttcac 30060  
 tagaaataat gggatgaat ccataacat gtttatctat gacgtcactg tcatcagaaa 30120  
 tgagactgcc accaccacac agatgccac tacacacagt tctaccata ctaccatgca 30180  
 aaccacacag acaaccacta catcaactca gcatatgacc accactacag cagcaaagcc 30240  
 aagtagtgca gcgcctcagc cccaggcttt ggctttgaaa gctgcacaac ctagtacaac 30300  
 tactaggacc aatgagcaga ctactgaatt tttgtccact gtcgagagcc acaccacagc 30360  
 tacctccagt gccttctcta gcaccgcaa tctctcctcg ctttctctta caccaatcag 30420  
 tcccgtact actcccaccc cagctcttct cccactccc ctgaagcaaa ctgaggacag 30480  
 cggcatgcaa tggcagatca ccctgctcat tgtgatcggg ttggtcatcc tggccgtgtt 30540  
 gctctactac atcttctgcc gccgcattcc caacgcgcac cgcaaaccgg cctacaagcc 30600  
 catcgttatc gggcagccgg agccgcttca ggtggaagg ggtctaagga atcttctctt 30660  
 ctcttttaca gtatggtgat tgaactatga ttcttagaca attcttgatc actattctta 30720  
 tctgcctcct ccaagtctgt gccaccctcg ctctgggtggc caacgccagt ccagactgta 30780  
 ttgggccctt cgctcctac gtgctctttg cttcatcac ctgcatctgc tgctgtagca 30840  
 tagtctgcct gcttatcacc ttcttcaggt tcattgactg gatctttgtg cgcctgcct 30900  
 acctgcgcca cccccccag taccgcgacc agcgagtggc ggggtgctc aggtcctct 30960  
 gataagcatg cgggctctgc tacttctcgc gcttctgctg ttagtgctcc cccgccccgt 31020  
 cgacccccgg tccccactc agtccccga agaggtccgc aaatgcaaat tccaagaacc 31080  
 ctggaaattc ctcaaatgct accgcaaaaa atcagacatg cttcccagct ggatcatgat 31140

cattgggatac gtgaacattc tggcctgcac cctcatctcc tttgtgattt acccctgctt 31200  
tgacttttgggt tggaaactcgc cagaggcgct ctatctcccg cctgaacctg acacaccacc 31260  
acagcaacct caggcacacg cactaccacc accacagcct aggccacaat acatgcccac 31320  
attagactat gaggccgagc cacagcgacc catgctcccc gctattagtt acttcaatct 31380  
aaccggcgga gatgactgac ccactggcca acaacaacgt caacgacctt ctcctggaca 31440  
tggacggccg cgcctcggag cagcgactcg cccaacttcg cattcgccag cagcaggaga 31500  
gagccgtcaa ggagctgcag gacggcatag ccatccacca gtgcaagaaa ggcattcttct 31560  
gcctggtgaa acaggccaag atctcctacg aggtcacccc gaccgaccat cgcctctcct 31620  
acgagctcct gcagcagcgc cagaagttca cctgcctggt cggagtcaac cccatcgtca 31680  
tcaccagca gtcgggcgat accaaggggt gcatccactg ctctgcgac tccccgact 31740  
gcgtccacac tctgatcaag accctctgcg gcctccgga cctctcccc atgaactaat 31800  
cacccttta tccagtgaat taaatatcat attgatgatg atttaaataa aaaataatca 31860  
tttgatttga aataaagata caatcatatt gatgatttga gttttaaaaa ataaagaatc 31920  
acttacttga aatctgatac caggtctctg tccatgtttt ctgccaacac cacctcactc 31980  
ccctcttccc agctctggtg ctgcagacct cggcgggctg caaacttcct ccacacgctg 32040  
aaggggatgt caaattcctc ctgtccctca atcttcattt tatcttctat cagatgtcca 32100  
aaaagcgct ccgggtggat gatgacttcg acccgtcta cccctacgat gcagacaacg 32160  
caccgacctg gcccttcac aacccccct tcgtctcttc agatggattc caagagaagc 32220  
ccctgggggt gctgtccctg cgactggctg acccgtcac caccaagaac ggggaaatca 32280  
ccctcaagct gggagagggg gtggacctg actcctcggg aaaactcatc tccaacacgg 32340  
ccaccaaggc cgccgcccct ctcagttttt ccaacaacac catttccctt aacatggata 32400  
cccctcttta taccaaagat ggaaaattat ccttacaagt ttctccaccg ttaaacadat 32460  
taaaatcaac cattctgaac acattagctg tagcttatgg atcaggttta ggactgagtg 32520  
gtggcactgc tcttgacgta cagttggcct ctccactcac ttttgatgaa aaaggaaata 32580  
ttaaatttaa ctagccagt ggtccattaa cagttgatgc aagtcgactt agtatcaact 32640  
gcaaaagagg ggtcactgtc actacctcag gagatgcaat tgaaagcaac ataagctggc 32700  
ctaaaggtat aagatttgaa ggtaatggca tagctgcaaa cattggcaga ggattggaat 32760  
ttggaaccac tagtacagag actgatgtca cagatgcata cccaattcaa gttaaattgg 32820  
gtactggcct tacctttgac agtacaggcg ccattgttg cttggaacaaa gaggatgata 32880  
aacttacatt atggaccaca gccgaccct cgccaaattg caaaatatac tctgaaaaag 32940  
atgccaact cacactttgc ttgacaaagt gtggaagtca aattctgggt actgtgactg 33000  
tattggcagt gaataatgga agtctcaacc caatcacaaa cacagtaagc actgcactcg 33060  
tctccctcaa gtttgatgca agtggagttt tgctaagcag ctccacatta gacaaagaat 33120  
attggaactt cagaaaggga gatgttacac ctgctgagcc ctataactaat gctataggtt 33180

ttatgcctaa cataaaggcc tatcctaaaa acacatctgc agcttcaaaa agccatattg 33240  
 tcagtcaagt ttatctcaat ggggatgagg ccaaaccact gatgctgatt attactttta 33300  
 atgaaactga ggatgcaact tgcacctaca gtatcacttt tcaatggaaa tgggatagta 33360  
 ctaagtacac aggtgaaaca cttgctacca gctccttcac cttctcctac atcgcccaag 33420  
 aatgaacact gtatcccacc ctgcatgcca acccttccca cccactctg tctatggaaa 33480  
 aaactctgaa gcacaaaata aaataaagtt caagtgtttt attgattcaa cagttttaca 33540  
 ggattcgagc agttatTTTT cctccaccct cccaggacat ggaatacacc accctctccc 33600  
 cccgcacagc cttgaacatc tgaatgccat tggatgagg catgcttttg gtctccacgt 33660  
 tccacacagt ttcagagcga gccagtctcg ggtcgggtcag ggagatgaaa ccctccgggc 33720  
 actcccgcat ctgcacctca cagctcaaca gctgaggatt gtcctcgggtg gtcgggatca 33780  
 cggttatctg gaagaagcag aagagcggcg gtgggaatca tagtccgcga acgggatcgg 33840  
 ccggtggtgt cgcacagggc cccgcagcag tcgctgccgc cgccgctccg tcaagctgct 33900  
 gctcaggggg tccgggtcca gggactccct cagcatgatg cccacggccc tcagcatcag 33960  
 tcgtctggtg cggcgggcgc agcagcgcag gcggatctcg ctcagggtcg tgcagtacgt 34020  
 gcaacacagg accaccaggt tgttcaacag tccatagttc aacacgctcc agccgaaact 34080  
 catcgcggaagg aggatgctac ccacgtggcc gtcgtaccag atcctcaggt aaatcaagt 34140  
 gcgctccctc cagaacacgc tgcccacgta catgatctcc ttgggcatgt ggcgggtcac 34200  
 cacctcccgg taccacatca ccctctggtt gaacatgcag ccccgatga tcctgcggaa 34260  
 ccacagggcc agcaccgccc cgcccgcct gcagcgaaga gacccgggt cccggcaatg 34320  
 gcaatggagg acccaccgct cgtaccctg gatcatctgg gagctgaaca agtctatgtt 34380  
 ggcacagcac aggcataatgc tcatgcatct cttcagcact ctcagctcct cgggggtcaa 34440  
 aaccatatcc cagggcacgg ggaactcttg caggacagcg aaccccgag aacagggcaa 34500  
 tcctcgaca taacttacat tgtgcatgga cagggtatcg caatcaggca gcaccgggtg 34560  
 atcctccacc agagaagcgc ggggtctcgt ctcctcacag cgtggtaagg gggccggccg 34620  
 atacgggtga tggcgggacg cggctgatcg tgttcgcgac cgtgtcatga tgcagttgct 34680  
 ttcggacatt ttcgtacttg ctgtagcaga acctggtccg ggcgctgcac accgatcgcc 34740  
 ggcggcggtc ccggcgcttg gaacgctcgg tgttgaaatt gtaaaacagc cactctctca 34800  
 gaccgtgcag cagatctagg gcctcaggag tgatgaagat cccatcatgc ctgatagctc 34860  
 tgatcacatc gaccaccgtg gaatgggcca gaccagcca gatgatgcaa ttttggtggg 34920  
 tttcggtgac ggcgggggag ggaagaacag gaagaaccat gattaacttt taatccaaac 34980  
 ggtctcggag cacttcaaaa tgaaggtcgc ggagatggca cctctcgccc ccgctgtgtt 35040  
 ggtggaaaat aacagccagg tcaaagggtga tacggttctc gagatgttcc acggtggctt 35100  
 ccagcaaagc ctccacgcgc acatccagaa acaagacaat agcgaaagcg ggaggggttct 35160  
 ctaattcctc aatcatcatg ttacactcct gcaccatccc cagataattt tcatttttcc 35220  
 agccttgaat gattcgaact agttcctgag gtaaatccaa gccagccatg ataaagagct 35280

cgcgcagagc gccctccacc ggcattctta agcacaccct cataattcca agatattctg 35340  
 ctcttggttc acctgcagca gattgacaag cggaatatca aaatctctgc cgcgatccct 35400  
 aagctcctcc ctgagcaata actgtaagta ctctttcata tcctctccga aatttttagc 35460  
 cataggacca ccaggaataa gattagggca agccacagta cagataaacc gaagtcctcc 35520  
 ccagtgcagca ttgccaaatg caagactgct ataagcatgc tggctagacc cggatgatgc 35580  
 ttccagataa ctggacagaa aatcacccag gcaattttta agaaaatcaa caaaagaaaa 35640  
 atcctccagg tgcacgttta gagcctcggg aacaacgatg aagtaaagtc aagcgggtgcg 35700  
 ttccagcatg gttagtttag tgatctgtaa aaaacaaaaa ataaaacatt aaaccatgct 35760  
 agcctggcga acaggtgggt aaatcgttct ctccagcacc aggcaggcca cgggggtctcc 35820  
 ggcgcgaccc tcgtaaaaat tgctgctatg attgaaaacc atcacagaga gacgttcccc 35880  
 gtggccggcg tgaatgattc gacaagatga atacaccccc ggaacattgg cgtccgcgag 35940  
 tgaaaaaaag cgcccagga agcaataagg cactacaatg ctgagttctca agtccagcaa 36000  
 agcgatgcc a tgcggatgaa gcacaaaatc ctccaggtgcg taaaaaatgt aattactccc 36060  
 ctctgcaca ggcagcgaag ccccgatcc ctccagatac acatacaaag cctcagcgtc 36120  
 catagcttac cgagcagcag cacacaacag gcgcaagagt cagagaaagg ctgagctcta 36180  
 acctgtccac ccgctctctg ctcaatatat agcccagatc tacactgacg taaaggccaa 36240  
 agtctaaaaa taccgcgcaa ataatcacac acgcccagca cacgcccaga aaccggtgac 36300  
 aactcaaaa aaatacgcgc acttctctca acgcccacac tgccgtcatt tccgggttcc 36360  
 cacgctacgt catcggaatt cgactttcaa attccgtcga ccgttaaaaa cgtcaccgcg 36420  
 cccgcccta acggctcgcc gtctctcgcc caatcacctt cctccctccc caaattcaaa 36480  
 cagctcattt gcatattaac gcgcaccaa agtttgaggt atattattga tgatg 36535

<210> 4  
 <211> 34264  
 <212> DNA  
 <213> simian adenovirus SV-1

<400> 4  
 tccttattct ggaaacgtgc caatatgata atgagcgggg aggagcgagg cggggccggg 60  
 gtgacgtgcg gtgacgtggg gtgacgcggg gtggcgcgag ggcggggcgg gagtggggag 120  
 gcgcttagtt ttacgtatg cggaaggagg ttttataaccg gaagttgggt aatttgggag 180  
 tatacttgta agttttgtgt aatttggcgc gaaaaccggg taatgaggaa gttgagggtta 240  
 atatgtactt tttatgactg ggcggaattt ctgctgatca gcagtgaact ttgggcgctg 300  
 acggggagggt ttcgctacgt ggcagtacca cgagaaggct caaaggctcc atttattgta 360  
 ctctcagcg ttttcgctgg gtattttaaac gctgtcagat catcaaggag cactcttga 420  
 gtgccggcga gtagagtttt ctctcccgcg ctgccgcgat gaggtggtt cccgagatgt 480  
 acggtgtttt ctgcagcgag acggcccggg actcagatga gctgcttaac acagatctgc 540  
 tggatgttcc caactgcct gtggcttcgc ctccgtcgct tcatgatctt ttcgatgtgg 600

aagtggatcc accgcaagat cccaacgagg acgcggtaaa cagtatgttc cctgaatgtc	660
tgtttgaggc ggctgaggag ggttctcaca gcagtgaaga gagcagacgg ggagaggaaac	720
tggacttgaa atgctacgag gaatgtctgc cttctagcga ttctgaaacg gaacagacag	780
ggggagacgg ctgtgagtcg gcaatgaaaa atgaacttgt attagactgt ccagaacatc	840
ctggtcattg ctgccgtgcc tgtgcttttc atagaaatgc cagcggaaat cctgagactc	900
tatgtgctct gtgttatctg cgccttacca gcgattttgt atacagtaag taaagtgttt	960
tcattggcgt acggtagggg attcgttgaa gtgctttgtg acttattatg tgtcattatt	1020
tctaggtgac gtgtccgacg tggaagggga aggagataga tcaggggctg ctaattctcc	1080
ttgcactttg ggggctgtgg ttccagttgg catttttaaa ccgagtgggtg gaggagaacg	1140
agccggagga gaccgagaat ctgagagccg gcctggaccc tccagtggaa gactaggtgc	1200
tgaggatgat cctgaagagg ggactagtgg gggtgctagg aaaaagcaaa aaactgagcc	1260
tgaacctaga aactttttga atgagttgac tgtaagccta atgaatcggc agcgtcctga	1320
gacggtgttt tggactgagt tggaggatga gttcaagaag ggggaattaa acctcttgta	1380
caagtatggg tttagacagt tgaaaactca ctggttgag ccgtgggagg atatggaaat	1440
ggctctagac acctttgcta aagtggctct gcggccggat aaagtttaca ctattcgccg	1500
cactgttaat ataaaaaaga gtgtttatgt tatcgcccat ggagctctgg tgcaggtgca	1560
gacccagac cgggtggcct tcaattgcgg catgcagagt ttgggccccg gggatagatg	1620
tttgaatgga gttacatttc aaaatgtcag gtttactggg gatgatttta atggctctgt	1680
gtttgtgact agcaccagc taaccctcca cgggtgttac ttttttaact ttaacaatac	1740
atgtgtggag tcatgggga ggggtgtctt gaggggctgc agttttcatg gttgctggaa	1800
ggcggtggtg ggaagaatta aaagtgtcat gtctgtgaag aaatgcatat ttgaacgtg	1860
tgtgatagct ctagcagtag aggggtacgg acggatcagg aataacgccg catctgagaa	1920
tgatgtttt cttttgctga aagggtacggc cagcgtaag cataatatga ttgcggcag	1980
cggcctgtgc ccctcgcagc tcttaacttg cgcatagga aactgtcaca ccttgcgcac	2040
cgtgcacata gtgtcccact cgcgccgcac ctggccaaca tttagacaca atatgctcat	2100
gcgttgcgcc gttcacctag gtgctagacg cggcgtgttt atgccttatc aatgtaactt	2160
tagtcatact aagattttgc tggaaactga ttccttcctt cgagtatgtt tcaatggggt	2220
gtttgacatg tcaatggaac tttttaagt gataagatat gatgaaacca agtctcgttg	2280
tcgctcatgt gaatgcggag ctaatcattt gaggtgttat cctgtaacct tgaacgttac	2340
cgaggagctg aggacggacc accacatgct gtcttgccctg cgtaccgact atgaatccag	2400
cgatgaggag tgagggtgagg ggcggagcca caaagggat aaaggggcat gaggggtggg	2460
cgcggtgttt caaaatgagc gggacgacgg acggcaatgc gtttgagggg ggagtgttca	2520
gcccatatct gacatctcgt cttccttcct gggcaggagt tcgtcagaat gtagtgggct	2580
ccaccgtgga cggacggccg gtcgcccctg caaattccgc caccctcacc tatgccaccg	2640

tgggatcatc gttggacact gccgcggcag ctgccgcttc tgctgccgct tctactgctc	2700
gcggcatggc ggctgatttt ggactatata accaactggc cactgcagct gtggcgctc	2760
ggtctctggt tcaagaagat gccctgaatg tgatcttgac tcgcctggag atcatgtcac	2820
gtcgcttggc cgaactggct gcgcagatat cccaagctaa ccccgatacc gcttcagaat	2880
cttaaaataa agacaaacaa atttgttgaa aagtaaaatg gctttatttg ttttttttgg	2940
ctcggtaggc tcgggtccac ctgtctcggc cgttaaggac tttgtgtatg ttttccaaaa	3000
cacggtacag atgggcttgg atgttcaagt acatgggcat gaggccatct ttggggtgga	3060
gataggacca ctgaagagcg tcatgttccg ggggtgtatt gttaaaccac cagtcgtagc	3120
agggtttttg agcgtggaac tggaatatgt ccttcaggag caggctaata gccaagggtg	3180
gacccttagt gtaggtgttt acaaagcggc tgagctggga gggatgcatg cggggggaga	3240
tgatatgcat ctgggcttgg attttgaggt tagctatgtt accaccagc tctctgcggg	3300
ggttcatgtt atgaaggacc accagcacgg tatagccagt gcatttgggg aacttgtcat	3360
gcagtttggc ggggaaggcg tggagaatt tagatacccc cttgtgcccc ctaggtttt	3420
ccatgcactc atccataata atggcaatgg gaccctggc ggccgcttta gcaaacacgt	3480
tttgggggtt ggaaacatca tagttttgct ctagagttag ctcacatag gccatcttta	3540
caaagcggg taggagggtg cccgactggg ggatgatagt tccatctggg cctggagcgt	3600
agttgccctc acagatctgc atctcccagg ccttaatttc cgaggggggg atcatgtcca	3660
cctggggggc gataaaaaac acggtttctg gcgggggggt aatgagctgg gtggaaagca	3720
agttacgcaa cagctgggat ttgccgaac cgggtggacc gtagatgacc ccgatgacgg	3780
gttgacgctg gtagttcaga gaggaacagc tgccgtcggg gcgcaggagg ggagctacct	3840
cattcatcat gcttctgaca tgtttatttt cactcactaa gttttgcaag agcctctccc	3900
caccagggg taagagttct tccaggctgt tgaagtgtt cagcggtttc aggccgtcgg	3960
ccatgggcat cttttcaagc gactgacgaa gcaagtacag tcggtcccag agctcgggtg	4020
cgtgctctat ggaatctcga tccagcagac ttcttggtt cgggggttgg gccgactttc	4080
gctgtagggc accagccggt gggcgtccag ggccgcgagg gttctgtcct tccagggtct	4140
cagcgttcgg gtgagggtgg tctcggtgac ggtgaaggga tgagccccgg gctgggcgct	4200
tgcgagggtg cgcttcaggc tcacctgtgt ggtgctgaag cgggcgtcgt ctccctgtga	4260
gtcggccaga tagcaacgaa gcatgaggtc gtagctgagg gactcggccg cgtgtccctt	4320
ggcgcgcagc tttcccttgg aaacgtgctg acatttgggt cagtgcagac acttgagggc	4380
gtagagtttt ggggccagga agaccgactc gggcgagtag gcgtcggctc cgcactgagc	4440
gcagacggtc tcgcactcca ccagccacgt gagctcgggt ttagcgggat caaaaaccaa	4500
gttgccctcca ttttttttga tgcgtttctt accttgcgtc tccatgagtc tgtgtcccgc	4560
ttccgtgaca aaaaggctgt cggatcccc gtagaccgac ttgagggggc gatcttccaa	4620
agggtgtccg aggtcttccg cgtacaggaa ctgggaccac tccgagacaa aggctcgggt	4680
ccaggctaac acgaaggagg cgatctgcga ggggtatctg tcgttttcaa tgagggggtc	4740

caccttttcc	agggtgtgca	gacacaggtc	gtcctcctcc	gcgtccacga	aggatgattgg	4800
cttgaagtg	taggtcacgt	gacccgcacc	cccccaagg	gtataaaagg	gggcgtgccc	4860
actctccccg	tcacttttctt	ccgcatcgct	gtggaccaga	gccagctgtt	cgggtgagta	4920
ggccctctca	aaagccggca	tgatttcggc	gctcaagttg	tcagtttcta	caaacgaggt	4980
ggatttgata	ttcacgtgcc	ccgcggcgat	gcttttgatg	gtggaggggt	ccatctgatc	5040
agaaaaacag	atctttttat	tgtcaagttt	ggtggcgaaa	gacccgtaga	gggcgttgga	5100
aagcaacttg	gcgatggagc	gcagggctctg	atttttctcc	cgatcgggcc	tctccttggc	5160
ggcgatggtg	agttgcacgt	actcgcgggc	cacgcaccgc	cactcgggga	acacggcggg	5220
gcgctcgctg	ggcaggatgc	gcacgcgcca	gccgcggttg	tgaggggtga	tgaggtccac	5280
gctggtggcc	acctccccgc	ggaggggctc	gttggtccaa	cacaatcgcc	ccccctttct	5340
ggagcagaac	ggaggcaggg	gatctagcaa	gttggcgggc	gggggggtcg	cgtcgatggt	5400
aaatatgccg	ggtagcagaa	ttttattaaa	ataatcgatt	tcggtgtccg	tgtcttgcaa	5460
cgcgtcttcc	cacttcttca	ccgccagggc	cctttcgtag	ggattcaggg	gcggtcccca	5520
gggcatgggg	tgggtcaggg	ccgaggcgta	catgccgcag	atgtcgtaca	cgtaacgggg	5580
ctccctcaac	accccgatgt	aagtggggta	acagcgcccc	ccgcggatgc	tggctcgcac	5640
gtagtcgtac	atctcgtgag	aggagaccat	gagcccgtct	cccaagtggg	tcttgtgggg	5700
tttttcggcc	cggtagagga	tctgcctgaa	gatggcggtg	gagttggaag	agatagtggg	5760
gcgttggaag	acgttaaagt	tggctccggg	cagtcccacg	gagtcttgga	tgaactgggc	5820
gtaggattcc	cggagcttgt	ccaccagggc	tgcggttacc	agcacgtcga	gagcgcagta	5880
gtccaacgtc	tcgcggacca	ggttgtaggc	cgctctttgt	tttttctccc	acagttcgcg	5940
attgaggagg	tattcctcgc	ggtctttcca	gtactcttcg	gcgggaaatc	ctttttcgtc	6000
cgctcggtaa	gaacctaaac	tgtaaaattc	gttcacggct	ttgtatggac	aacagccttt	6060
ttctaccggc	agggcgtacg	cttgagcggc	ctttctgaga	gaggtgtggg	tgagggcgaa	6120
ggtgtcccgc	accatcactt	tcaggtactg	atgtttgaag	tccgtgtcgt	cgaggcgcc	6180
ctgttcccac	agcgtgaagt	cggtgcgctt	tttctgcctg	ggattgggga	gggcgaatgt	6240
gacgtcgтта	aagaggattt	tcccggcgcg	gggcatgaag	ttgcgagaga	tcctgaaggg	6300
tccgggcacg	tccgagcggg	tgttgatgac	ttgcgccgcc	aggacgatct	cgtcgaagcc	6360
gttgatggtg	tgggccacga	tgtaaagttc	gataaagcgc	ggctgtccct	tgagggccgg	6420
cgcttttttc	aactcctcgt	aggtagagaca	gtccggcgag	gagagacca	gctccgcccc	6480
ggcccagtcg	gagagctgag	ggttagccgc	gaggaaagag	ctccacaggt	caagggctag	6540
cagagtttgc	aagcggtcgc	ggaactcgcg	aaactttttc	cccacggcca	ttttctccgg	6600
cgtcaccacg	tagaaagtgc	aggggcgggtc	gttccagacg	tcccatcgga	gctctagggc	6660
cagctcgcag	gcttgacgaa	cgagggctctc	ctcgcccag	acgtgcatga	ccagcatgaa	6720
gggtaccaac	tgtttcccga	acgagcccat	ccatgtgtag	gtttctacgt	cgtaggtgac	6780

aaagagccgc tgggtgcgcg cgtgggagcc gatcggaag aagctgatct cctgccacca 6840  
gttgaggaa tgggtgttga tgtggtgaaa gtagaagtcc cgccggcgca cagagcattc 6900  
gtgctgatgt ttgtaaaagc gaccgcagta gtcgcagcgc tgcacgctct gtatctcctg 6960  
aatgagatgc gcttttcgcc cgcgcaccag aaaccggagg gggaagttga gacgggggct 7020  
tggtggggcg gcatccccctt cgccttggcg gtgggagtct gcgtctgcgc cctccttctc 7080  
tgggtggacg acggtgggga cgacgacgcc ccgggtgccc caagtccaga tctccggcac 7140  
ggagggggcg aggcgttgca ggaggggacg cagctgcccg ctgtccaggg agtcgagggc 7200  
ggccgcgctg aggtcggcgg gaagcgtttg caagtccact ttcagaagac cggtaagagc 7260  
gtgagccagg tgcacatggt acttgatttc caggggggtg ttggaagagg cgtccacggc 7320  
gtagaggagg ccgtgtccgc gcggggccac caccgtgccc cgaggagggt ttatctcact 7380  
cgctgagggc gagcgccggg gggtagaggc ggctctgcgc cggggggcag cggaggcagt 7440  
ggcacgtttt cgtgaggatt cggcagcggg tgatgacgag cccgggagact gctggcgtgg 7500  
gcgacgacgc ggcggttgag gtcctggatg tgccgtctct gcgtgaagac caccggcccc 7560  
cgggtcctga acctgaaaga gagttccaca gaatcaatgt ctgcatcggt aacggcggcc 7620  
tgcttgagga tctcctgtac gtcgcccag ttgtcttgat aggcgatctc ggccatgaac 7680  
tgctccactt cttcctcgcg gaggtcgccg tggcccgcct gctccacggg ggcgggcagg 7740  
tcgttgagga tgcgacgcat gagttgagag aaggcggtga ggccgttctc gttccacacg 7800  
cggctgtaca ccacgtttcc gaaggagtcg cgcgctcgca tgaccacctg ggccacgttg 7860  
agttccacgt ggcgggcgaa gacggcgtag tttctgaggc gctggaagag gtagttgagc 7920  
gtggtggcga tgtgctcgca gacgaagaag tacatgatcc agcgccgag ggtcatctcg 7980  
ttgatgtctc cgatggcttc gagacgctcc atggcctcgt agaagtcgac ggcgaagttg 8040  
aaaaattggg agttgcgggc ggccaccgtg agttcttctt gcaggaggcg gatgagatcg 8100  
gcgaccgtgt cgcgcacctc ctgctcgaaa gcgccccgag gcgcctctgc ttcttcctcc 8160  
ggctcctcct cttccagggg cacgggttcc tccggcagct ctgcgacggg gacggggcgg 8220  
cgacgtcgtc gtctgaccgg caggcggtcc acgaagcgt cgatcatttc gccgcgccgg 8280  
cgacgcatgg tctcggtgac ggcggtccg ttttcgcgag gtcgcagttc gaagacgccg 8340  
ccgcgcagag cgccccctg cagggagggt aagtggtag ggccgtcggg cagggacacg 8400  
gcgctgacga tgcattttat caattgctgc gtaggcactc cgtgcaggga tctgagaacg 8460  
tcgaggtcga cgggatccga gaacttctct aggaagcgt ctatccaatc gcagtcgcaa 8520  
ggtaagctga ggacgggtgg ccgctggggg gcgtccgcgg gcagttggga ggtgatgctg 8580  
ctgatgatgt aattaaagta ggcggtcttc aggcggcgga tgggtggcgag gaggaccacg 8640  
tctttggggc cggcctgttg aatgcgcagg cgctcgcca tgccccaggc ctgctctga 8700  
cagcgacgca ggtctttgta gtagtcttgc atcagtctct ccaccggaac ctctgcttct 8760  
cccctgtctg ccatgcgagt cgagccgaac cccgcaggg gctgcagcaa cgctaggtcg 8820  
gccacgaccc tctcgccag cacggcctgt tggatctgcg tgaggggtgg ctggaagtcg 8880

tccagggtcca	cgaagcgggtg	ataggccccc	gtgttgatgg	tgtagggtgca	gttggccatg	8940
acggaccagt	tgacgaactg	catgccgggt	tgggtgatct	ccgtgtactt	gaggcgcgag	9000
taggcgcggg	actcgaacac	gtagtcgttg	catgtgcgta	ccagatactg	gtagccaacc	9060
aggaagtggg	gaggcggttc	tcggtacagg	ggccagccga	ctgtggcggg	ggcgccgggg	9120
gacaggtcgt	ccagcatgag	gcgatggtag	tggtagatgt	agcgggagag	ccagggtgatg	9180
ccggccgagg	tggtcgcggc	cctggtgaat	tcgcggaagc	ggttccagat	gttgcgagg	9240
ggcgaaagc	gctccatggt	gggcacgctc	tgccccgtga	ggcgggcgca	atcttgtagc	9300
ctctagatgg	aaaaaagaca	gggcgggtcat	cgactccctt	ccgtagctcg	gggggtaaag	9360
tcgcaagggt	gcggcggcgg	ggaaccccg	ttcgagaccg	gccggatccg	ccgctcccga	9420
tgcgctggc	cccgcattca	cgacgtccgc	gtcgagacc	agccgcgacg	ctccgcccc	9480
atacggaggg	gagtcctttg	gtgttttttc	gtagatgcat	ccggtgctgc	ggcagatgag	9540
acctcagacg	cccaccacca	ccgccgcggc	ggcagtaaac	ctgagcggag	gcggtgacag	9600
ggaggaggag	gagctggctt	tagacctgga	agagggagag	gggctggccc	ggctgggagc	9660
gccgtcccc	gagagacacc	ctagggttca	gctcgtgagg	gacgccaggc	aggcttttgt	9720
gccgaagcag	aacctgttta	gggaccgcag	cggtcaggag	gcggaggaga	tgcgcgattg	9780
caggtttcgg	gcgggtagag	agctgagggc	gggcttcgat	cgggagcggc	tcctgagggc	9840
ggaggatttc	gagcccagcg	agcgttctg	ggtgagcccc	gcccgcgctc	acgtctcggc	9900
ggccaacctg	gtgagcgcgt	acgagcagac	ggtgaacgag	gagcgcaact	tccaaaagag	9960
ctttaacaat	cacgtgagga	ccctgatcgc	gaggggaggag	gtgaccatcg	ggctgatgca	10020
tctgtgggac	ttcgtggagg	cctacgtgca	gaacccggcc	agcaaacctc	tgacggcccc	10080
gctgttcctg	atcgtgcagc	acagccgcga	caacgagacg	ttccgcgacg	ccatgttgaa	10140
catcgcgagg	cccgagggtc	gctggctctt	ggatctgatt	aacatcctgc	agagcatcgt	10200
ggtgcaggag	aggggcctca	gcttagcgga	caagggtggc	gccattaact	attcgatgca	10260
gagcctgggg	aagtctctac	ctcgcaagat	ctacaagagc	ccttacgtgc	ccatagacaa	10320
ggagggtgaag	atagacagct	tttacctg	catggcgctg	aagggtgctga	cgctgagcga	10380
cgacctcggc	gtgtaccgta	acgacaagat	ccacaaggcg	gtgagcgcca	gccgcccggc	10440
ggagctgagc	gacagggagc	tgatgcacag	cctgcagagg	gcgctggcgg	gcgccgggga	10500
cgaggagcgc	gaggcttact	tcgacatggg	agccgatctg	cagtggcgctc	ccagcgcgcg	10560
cgccttgagg	gcggcgggct	accccagcga	ggaggatcgg	gacgatttgg	aggaggcagg	10620
cgagtacgag	gacgaagcct	gaccgggcag	gtgtgttttt	agatgcagcg	gccggcggac	10680
ggggccaccg	cgatcccg	acttttgga	tccatgcaga	gtcaaccttc	gggcgtgacc	10740
gcctccgatg	actgggcggc	ggccatggac	cgattatgg	cgctgactac	ccgcaacccc	10800
gaggctttta	gacagcaacc	ccaggccaac	cgtttttcgg	ccatcttgga	agcgggtggg	10860
ccctcccgca	ccaacccac	acacgagaaa	gtcctgacta	tcgtgaacgc	cctggtagac	10920

agcaaggcca tccgccgcga cgaggcgggc ttgatttaca acgctctgct ggaacgggtg 10980  
gcgcgctaca acagcactaa cgttcagacc aatctggatc gcctcaccac cgacgtgaag 11040  
gaggcgctgg ctccagaagga gcggtttctg agggacagca atctgggctc tctggtggca 11100  
ctcaacgcct tcctgagcac gcagccggcc aacgtgcccc gcgggcagga ggactacgtg 11160  
agcttcatca gcgctctgag gctgctggtg tccgaggtgc cccagagcga ggtgtatcag 11220  
tctgggccgg attacttctt ccagacgtcc cgacagggct tgcaaacggg gaacctgact 11280  
caggccttta aaaacttgca aggcattgtg ggcgttaagg ccccggtggg cgatcgagcc 11340  
accatctcca gtctgctgac cccaacact cgcctgctgc tgctcttgat cgcgccgttc 11400  
accaacagta gcaactatcag ccgtgactcg tacctgggtc atctcatcac tttgtaccgc 11460  
gaggccatcg gtcaggctca gatcgacgag cacacatatc aggagatcac taacgtgagc 11520  
cgggccctgg gtcaggaaga taccggcagc ctggaagcca cgttgaactt tttgctaacc 11580  
aaccggaggc aaaaaatacc ctcccagttt acgttaagcg ccgaggagga gaggattctg 11640  
cgatactgac agcagtcctg gagtctgtac ttgatgcggg agggcgccac cgcttccacg 11700  
gctttagaca tgacggctcg gaacatggaa ccgtcctttt actccgcca ccggccgttc 11760  
attaaccgtc tgatggacta ctccatcgc gcggccgcca tgaacgggga gtacttcacc 11820  
aatgccatcc tgaatccgca ttggatgccc ccgtccggct tctacaccgg cgagtttgac 11880  
ctgcccgaag ccgacgacgg ctttctttgg gacgacgtgt ccgacagcat tttcacgccg 11940  
ggcaatcgcc gattccagaa gaaggagggc ggagacgagc tccccctctc cagcgtggag 12000  
gcggcctcta ggggagagag tccctttccc agtctgtctt ccgccagcag tggtcgggta 12060  
acgcgcccgc ggttgccggg ggagagcgac tacctgaacg accccttgct gcggccggct 12120  
aggaagaaaa atttcccaa caacgggggtg gaaagcttg tggataaaat gaatcgttg 12180  
aagacctacg cccaggagca gcgggagtg gaggacagtc agccgcgacc gctggttccg 12240  
ccgcaactgg gtcgtcagag agaagacccg gacgactccg cagacgatag tagcgtgttg 12300  
gacctgggag ggagcggagc caacccttt gctcacttgc aaccaaggg gcgttccagt 12360  
cgctctact aataaaaaag acgcggaaac ttaccagagc catggccaca gcgtgtgtcc 12420  
tttcttctc tctttcttcc tcggcgcggc agaattgagaa gagcggtgag agtcacgccg 12480  
gcggcgtatg agggctccgc ccttcttac gaaagcgtga tgggatcagc gaacgtgccg 12540  
gccacgctgg aggcgcctta cgttcctccc agatacctgg gacctacgga gggcagaaac 12600  
agcatccgtt actccgagct ggcacccctg tacgatacca ccaagggtga cctggtggac 12660  
aacaagtcgg cggacatcgc ctccctgaat tatcaaaacg atcacagcaa ttttctgact 12720  
accgtggtgc agaacaatga cttacccccg acggaggcgg gcacgcagac cattaacttt 12780  
gacgagcgtt cccgctgggg cggtcagctg aaaaccatcc tgacaccaa catgccaac 12840  
atcaacgagt tcatgtccac caacaagttc agggccaggc tgatggttaa aaaggctgaa 12900  
aaccagcctc ccgagtacga atggtttgag ttcaccattc ccgagggcaa ctattccgag 12960  
accatgacta tcgatctgat gaacaatgcg atcgtggaca attacctgca agtggggagg 13020

cagaacgggg tatttgaaag cgatatcggc gtaaaatttg ataccagaaa cttccgactg 13080  
gggtgggatc ccgtgaccaa gctggtgatg ccaggcgtgt acaccaacga ggcttttcac 13140  
cccgacatcg tgctgctgcc ggggtgcggt gtggacttca ctcagagccg tttgagtaac 13200  
ctgttaggga tcagaaaagcg ccgccccttc caagagggct ttcagatcat gtatgaggac 13260  
ctggaaggag gtaacattcc aggtttgcta gacgtgccgg cgtatgaaga gagtgttaaa 13320  
caggcggagg cgaggggacg agagattcga ggcgacacct ttgccacgga acctcacgaa 13380  
ctggtaataa aacctctgga acaagacagt aaaaaacgga gttacaacat tatatccggc 13440  
actatgaata ccttgtagcg gagctggttt ctggcttaca actacgggga tcccgaag 13500  
ggagtgagat catggaccat actcaccacc acggacgtga cctgcggctc gcagcaagtg 13560  
tactggtccc tgccggatat gatgcaagac ccggtcacct tccgcccctc caccgaagtc 13620  
agcaacttcc cgggtggtggg caccgagctg ctgcccgtcc atgccaagag cttctacaac 13680  
gaacaggccg tctactcgca actcattcgc cagtccaccg cgcttaccga cgtgttcaat 13740  
cgctttcccg agaaccagat tctggtgctc cctcccgtc ctaccattac caccgtcagt 13800  
gaaaacgttc ccgcccctac agatcacgga accctgccgc tgcgcagcag tatcagtggg 13860  
gttcagcgcg tgaccatcac cgacgccaga cgtcgaacct gtccctacgt ttacaaagct 13920  
cttggcgtag tggctcctaa agtgcctct agtcgcacct tctaaacatg tccatcctca 13980  
tctctcccga taacaacacc ggctggggac tgggtccgg caagatgtac ggcggagcca 14040  
aaaggcgctc cagtgcgcac ccagttcgag ttcggggcca cttccgtgct ccctggggag 14100  
cttacaagcg aggactctcg ggccgaacgg cggtagacga taccatagat gccgtgattg 14160  
ccgacgcccg ccggtacaac cccggaccgg tcgctagcgc cgcctccacc gtggattccg 14220  
tgatcgacag cgtggtagct ggcgctcggg cctatgctcg ccgcaagagg cggtgcac 14280  
ggagacgtcg cccaccgcc gccatgctgg cagccagggc cgtgctgagg cgggcccggg 14340  
gggtaggcag aagggtatg cgccgcgctg ccgccaacgc cgccgcccgg agggcccgcc 14400  
gacaggctgc ccgccaggct gctgccgcca tcgctagcat ggccagacc aggagaggga 14460  
acgtgtactg ggtgcgcgat tctgtgacgg gagtccgagt gccggtgcgc agccgacctc 14520  
cccgaagtta gaagatccaa gctgcgaaga cggcgggtact gagtctccct gttgttatca 14580  
gcccacatg agcaagcgca agtttaaaga agaactgctg cagacgtgg tgcctgagat 14640  
ctatggccct ccggacgtga agcctgacat taagccccgc gatatcaagc gtgttaaaaa 14700  
gcgggaaaag aaagaggaac tcgcggtggt agacgatggc ggagtggaa ttattaggag 14760  
tttcgccccg cgacgcaggg ttcaatggaa agggcggcgg gtacaacgcg ttttgaggcc 14820  
gggcaccgcg gtagttttta ccccgggaga gcggtcggcc gttaggggtt tcaaaaggca 14880  
gtacgacgag gtgtacggcg acgaggacat attggaacag gcggtcaac agatcggaga 14940  
atttgccctac ggaaagcgtt cgcgtcgca agacctggcc atcgcttag acagcgcaa 15000  
ccccacgcc agcctcaaac ctgtgacgct gcagcaggtg ctcccgtga gcgccagcac 15060

ggacagcaag aggggaataa aaagagaaat ggaagatctg cagcccacca tccagctcat 15120  
gggtccctaaa cggcagaggc tggaagaggt cctggagaaa atgaaagtgg acccaagcat 15180  
agagccggac gtcaaagtca ggccgatcaa agaagtggcc cctggtctcg ggggtgcagac 15240  
gggtggatatc cagatcccgc tcacgtcagc ttcgaccgcc gtggaagcca tggaaacgca 15300  
aacggaaacc cctgccgcga tcggtaccag ggaagtggcg ttgcaaaccg acccctggta 15360  
cgaatacgcc gccctcggc gtcagaggcg acccgctcgt tacggccccg ccaacgccat 15420  
catgccagaa tatgcgctgc atccgtctat cctgcccacc cccggctacc ggggagtgc 15480  
gtatcgcccc tcaggaaccc gccgccgaac ccgtcgccgc cgccgctccc gtcgtgctct 15540  
ggcccccggtg tcggtgcgcc gcgtaacacg ccggggaaaag acagttacca ttcccaaccc 15600  
gcgctaccac cctagcatcc .tttaatgact ctgccgtttt gcagatggct ctgacttgcc 15660  
gcgtgcgcct tcccgttccg cactatcgag gaagatctcg tcgtaggaga ggcatggcgg 15720  
gtagtggctg ccggcgggct ttgcgcaggc gcatgaaagg cggaatttta cccgctctga 15780  
tacccataat cgccgccgcc atcggtgcca taccggcgt cgcttcagtg gccttgcaag 15840  
cagctcgtaa taaataaacg aaggcttttg cacttatgtc ctggtcctga ctattttatg 15900  
cagaaagagc atggaagaca tcaattttac gtcgctggct ccgcggcacg gtcgcggcc 15960  
gctcatgggc acctggaacg acatcggcac cagtcagctc aacgggggcg ctttcaattg 16020  
ggggagcctt tggagcggca ttaaaaactt tggtccacg attaaatcct acggcagcaa 16080  
agcctggaac agtagtgctg gtcagatgct ccgagataaa ctgaaggaca ccaacttcca 16140  
agaaaaagtg gtcaatggg tggtgaccgg catccacggc gcggtagatc tcgccaacca 16200  
agcggtgtag aaagagattg acaggcgttt ggaaagctcg cgggtgccgc cgagagagg 16260  
ggatgaggtg gaggtcgagg aagtagaagt agaggaaaag ctgccccgcg tggagaaagt 16320  
tcccggtgcg cctccgagac cgcagaagcg acccaggcca gaactagaag aaactctggt 16380  
gacggagagc aaggagcctc cctcgtaga gcaagccttg aaagagggcg cctctccacc 16440  
ctaccaatg acaaaaccga tcgcgcctat ggctcgccg gtgtacggga aggactacaa 16500  
gcctgtcacg ctagagctcc ccccgccgc acccgccgcc cccacgcgcc cgaccgttcc 16560  
cccccccctg ccggtccgt cggcgggacc cgtgtccgca cccgtcgccg tgcctctgcc 16620  
agccgcccgc ccagtggcg tggtccactgc cagaaacccc agaggccaga gaggagccaa 16680  
ctggcaaaagc acgctgaaca gcatcgtagg cctgggagtg aaaagcctga aacgccgccg 16740  
ttgctattat taaaagtgt gtaaaaaat ttcccgttgt atacgcctcc tatgttaccg 16800  
ccagagacgc gtgactgtcg ccgcgagcg cgctttcaag atggccaccc catcgatgat 16860  
gccgcagtgg tcttacatgc acatcgccgg gcaggacgcc tcggagtacc tgagccccgg 16920  
tctcgtgcag ttcgcccgc ccaccgacac ctacttcagc ttgggaaaca agtttagaaa 16980  
ccccaccgtg gccccaccc acgatgtaac cacggaccgc tcgcaaaggc tgaccctgcg 17040  
ttttgtgccc gtagaccggg aggacaccgc gtactcttac aaagtgcgct acacgctggc 17100  
cgtaggggac aaccgagtgc tggacatggc cagcacctac tttgacatcc ggggagtgc 17160

ggatcgcggt cccagtttta agccctactc ggggtaccgcg tacaattccc tggctcccaa 17220  
 gggcgctccc aaccctgcag aatggacgaa ttcagacagc aaagttaaag tgagggcaca 17280  
 ggcgcctttt gttagctcgt atgggtgtac agcgattaca aaagagggtta ttcaggtggg 17340  
 agtaacctta acagactccg gatcaacacc acagtatgca gataaaacgt atcagcctga 17400  
 gccgcaaatt ggagaactac agtggaacag cgatgttgga accgatgaca aaatagcagg 17460  
 aagagtgtcta aagaaaacaa cgcccatgtt cccttgttac ggctcatatg ccaggcccac 17520  
 taatgaaaaa ggaggacagg caacaccgtc cgctagtcaa gacgtgcaaa atcccgaatt 17580  
 acaatttttt gcctctacta atgtcgccaa tacacaaaaa gcagttctat atgcggagga 17640  
 cgtgtcaatt gaagcgccag aactcactt ggtgttcaaa ccaacagtca ctgaaggcat 17700  
 tacaagttca gaggctctac tgaccaacaa agctgtctcc aaccgtccaa actacatagc 17760  
 ctttagagat aattttattg gtctcatgta ctacaatagc acaggttaaca tgggagtact 17820  
 ggcaggccag gcttctcagc taaatgcagt tggtgacctg caagacagaa atactgagct 17880  
 gtcctaccaa ctcatgttg acgccctcgg agaccgcagt cggtactttt ctatgtggaa 17940  
 ccaagctgtg gatagttacg atcctgatgt aagaatcata gaaaaccatg gcgtagaaga 18000  
 tgaattgcct aattattgct ttcctttggg aggcattgga gtaaccgaca cctactcgcc 18060  
 tataaagggt aatggaggag gcaatggatg ggaagccaat aacggcggtt tcaccgaaag 18120  
 aggagtggaa ataggttcag ggaacatgtt tgccatggag attaacctgc aagccaacct 18180  
 atggcgtagc tttctgtact ccaatattgg gctgtacctg ccagactctc tcaaaatcac 18240  
 tcctgacaac atcacactcc cagagaacaa aaacacctat cagtatatga acggtcgcgt 18300  
 gacgccaccc gggctgggtg acacctacgt taacgtgggc gcgcgctggt ccccgatgt 18360  
 catggacagt attaaccctt ttaatcacca ccgcaacgcc ggactccgct accgttccat 18420  
 gctcctggga aacggacgct acgtgccctt ccacatccag gtgcccaga aattctttgc 18480  
 aattaaacac ctgctgctgc tccccggtt ctacacctac gagtggaaact tccgcaagga 18540  
 cgtgaacatg atcttgaga gctcgtggg caatgacctg cgagtggacg gggccagcat 18600  
 ccgcttcgac agcatcaacc tgtacgcaa ctttttccc atggcccaca acacggcctc 18660  
 caccctggaa gccatgctgc gcaacgacac caacgaccaa tctttcaacg actacctgtg 18720  
 cgcgccaac atgctgtacc ccatccccgc caacgccacc agcgtgccca tctccattcc 18780  
 ctctcgcaac tgggcagcct tcaggggctg gagtttcacc cgcctcaaaa ccaaggagac 18840  
 cccctcgtg ggtccgggt tcgacccta cttcgtctac tccggctcca tcccctacct 18900  
 ggacggcacc ttctacctca accatacttt caaaaagggt tcaatcatgt tcgactcctc 18960  
 cgtcagctgg cccggaacg accgtctgct gacgccaac gagttcgaaa tcaagcggtc 19020  
 ggtggacggt gaagggtaca acgtggctca gagcaacatg accaaggact ggttcctgat 19080  
 tcagatgtc agccactaca acatcggcta ccagggttc tacgtgcccg aaaattacaa 19140  
 ggaccgcatg tactctttct tcagaaactt ccaacccatg agccgcaaaa ttgtagattc 19200

aacggcttac actaattatc aggatgtgaa actgccatac cagcataaca actcaggggtt 19260  
 cgtgggctac atgggaccca ccatgcgaga ggggcaggcc taccggcca actatcccta 19320  
 tcccctgatt ggggccaccg ccgtgcccag cctcacgcag aaaaagttcc tctgcgaccg 19380  
 ggtgatgtgg aggatcccct tctctagcaa cttcatgtct atgggctccc tcaccgacct 19440  
 ggggcagaac atgctgtacg ccaactccgc tcacgccttg gatatgacct ttgaggtgga 19500  
 tcccatggat gagcccacgc ttctctatgt tctgtttgaa gtcttcgacg tgggtgcgcat 19560  
 ccaccagccg caccgcggcg tcacgagggc cgtctacctg cgcacacctt tctctgccgg 19620  
 taacgccacc acctaaagaa gccgatgggc tccagcgaac aggagctgca ggccattgtt 19680  
 cgcgacctgg gctgcggggc ctactttttg ggcaccttcg acaagcgttt tcccggcttc 19740  
 atgtccccc acaagccggc ctgtgccatc gttaacacgg ccggacggga gaccgggggg 19800  
 gtccactggc tcgccttcgc ctggaacccg cgtaaccgca cctgctacct gttcgacct 19860  
 tttggtttct ccgacgaaag gctgaagcag atctaccagt tcgagtacga ggggctcctc 19920  
 aagcgcagcg ctctggcctc cagccccgac cactgcgtca ccctggaaaa gtccacccaa 19980  
 acggtccagg ggcccctctc ggccgcctgc gggctcttct gttgcatgtt tttgcacgcc 20040  
 ttcgtgact ggctcacac ccccatggat cacaacccca ccatggatct gctcaccgga 20100  
 gtgcccaca gcatgcttca cagccccag gtgcgccccca ccctgcgccg taaccaggaa 20160  
 cacctgtatc gctttctggg gaaacactct gcctattttc gccgccaccg gcagcgcac 20220  
 gaacgggcca cggccttcga aagcatgagc caaagagtgt aatcaataaa aaacattttt 20280  
 atttgacatg atacgcgctt ctggcgtttt attaaaaatc gaaggggttcg agggaggggt 20340  
 cctcgtgccc gctggggagg gacacgttgc gatactggaa acgggcgctc caacgaaact 20400  
 cggggtacac cagccgcggc aggggcacgt cttctaggtt ctgcttccaa aactgccgca 20460  
 ccagctgcag ggctcccatg acgtcggggc ccgatatctt gaagtcgcag ttagggccgg 20520  
 agtcccgcg gctgttgccg aacacggggt tggcacactg gaacaccagc acgcccgggt 20580  
 tgtggatact ggccagggcc gtcgggtcgg tcacctccga cgcattcaga tcctcggcgt 20640  
 tgctcagggc aaacgggggt agcttgacac tctgccgccc aatctggggt actaggtcgc 20700  
 gcttgttgag gcagtcgcag cgcagagggc tcaggatgcg tcgctgcccg cgttgcata 20760  
 tagggttaact cgccgccagg aactcctcca tttgacggaa ggccatctgg gctttgccgc 20820  
 cctcgggtga gaatagcccg caggacttgc tagagaatac gttatgaccg cagttgacgt 20880  
 cctccgcgca gcagcgggcg tcttcgttct tcagctgaac cacgttgccg ccccaacggt 20940  
 tctggaccac cttggctcta gtggggtgct ccttcagcgc ccgctgtccg ttctcgtg 21000  
 ttacatccat ttccaacacg tgctccttgc agaccatctc cactccgtgg aagcaaaaca 21060  
 ggacgccctc ctgctgggta ctgcgatgct ccctacggc gcatccggtg ggctcccagc 21120  
 tcttgtgttt taccgccg taggcttcca tgtaagccat aaggaatctg cccatcagct 21180  
 cgggtgaagg cttctggttg gtgaagggtta gcggcaggcc gcggtgctcc tcgttcaacc 21240  
 aagtttgaca gatcttgccg tacaccgctc cctgggtcggg cagaaactta aaagccgctc 21300

tgctgtcggt gtctacgtgg aactttctcca ttaacatcat catggtttcc atacccttct 21360  
cccacgctgt caccagtgggt ttgctgtcgg gggtcttcac caacacggcg gtagaggggc 21420  
cctcgccggc cccgacgtcc ttcattgtca ttctttgaaa ctccacggag ccgtccgcgc 21480  
gacgtactct gcgcaccgga gggtagctga agcccacctc caccacggtg ctttcgacct 21540  
cgctgtcggg gacaatctcc ggggatggcg gcggcgcggg tgtgccttg cgagccttct 21600  
tcttgggagg gagctgaggc gcctcctgct cgcgctcggg gctcatctcc cgcaagtagg 21660  
gggtaatgga gctgcctgct tggttctgac gggtggccat tgtatcctag gcagaaagac 21720  
atggagctta tgcgcgagga aactttaacc gccccgtccc ccgtcagcga cgaagatgtc 21780  
atcgtcgaac aggacccggg ctacgttacg ccgcccaggg atctggaggg gcctgaccgg 21840  
cgcgacgcta gtgagcggca ggaaaatgag aaagaggagg cctgctacct cctggaaggc 21900  
gacgttttgc taaagcattt cgccaggcag agcaccatag ttaaggaggc cttgcaagac 21960  
cgctccgagg tgcccttggg cgtcgccgcg ctctcccagg cctacgaggc gaaccttttc 22020  
tcgcctcgag tgcctccgaa gagacagccc aacggcacct gcgagcccaa cccgcgactc 22080  
aacttctacc ccgtgttcgc cgtaccagag gcgctggcca cctatcacat ttttttcaaa 22140  
aaccaacgca tccccctatc gtgccggggc aaccgcaccg cggccgatag gaatctcagg 22200  
cttaaaaacg gagccaacat acctgatatc acgtcgctgg aggaagtgcc caagattttc 22260  
gagggtctgg gtcgagatga gaagcggggc gcgaacgctc tgcagaaaga acagaaagag 22320  
agtcagaacg tgctgggtgga gctggagggg gacaacgcgc gtctggccgt cctcaaacgc 22380  
tgcatagaag tctccactt cgctacccc gccctcaact tgccaccaa agttatgaaa 22440  
tcggtcatgg atcagctgct catcaagaga gctgagcccc tggatcccga ccaccccgag 22500  
gcggaaaact cagaggacgg aaagcccgtc gtcagcgacg aggagctcga gcggtggctg 22560  
gaaaccaggg accccaaca gttgcaagag aggcgcaaga tgatgatggc ggccgtgctg 22620  
gtcaccgtgg agctggaatg cctgcaacgg tttttcagcg acgtggagac gctacgcaaa 22680  
atcggggaat ccctgcacta caccttccgc cagggtctacg tccgccaggc ctgcaagatc 22740  
tccaacgtgg agctcagcaa cctggtctcc tacatgggca tcctccacga gaaccggctg 22800  
gggcagagcg tgctgcactg caccttgcaa ggcgaggcgc ggcgggacta cgtgcgagac 22860  
tgcatctacc tcttctcac cctcacctgg cagaccgcca tgggctctg gcagcagtg 22920  
ttggaagaga gaaacctcaa agagctagac aaactcctct gccgccagcg gcgcgccctg 22980  
tgggtccggt tcagcgagcg cacggtcgcc agcgctctgg cggacatcat cttcccggag 23040  
cgctgatga aaaccttgca aaacggcctg ccggatttca tcagtcaaag cattttgcaa 23100  
aacttccgct cttttgtcct ggaacgtcc gggatcttgc ccgccatgag ctgcgcgcta 23160  
ccttctgact ttgtccccct ctctaccgc gagtgccctc cccactgtg gagccactgc 23220  
taccttttcc aactggccaa ctttctggcc taccactccg acctcatgga agacgtaagc 23280  
ggagaggggt tactggagtg ccactgccgc tgcaacctgt gcacccccca cagatcgctg 23340

gcctgcaaca ccgagctact cagcgaaacc caggtcatag gtaccttcga gatccagggg 23400  
ccccagcagc aagaggggtgc ttccggcttg aagctcactc cggcgctgtg gacctcggct 23460  
tacttacgca aatttgtagc cgaggactac cacgcccaca aaattcagtt ttacgaagac 23520  
caatctcgac caccgaaagc cccctcacg gcctgctgca tcaccagag caagatcctg 23580  
gccaattgc aatccatcaa ccaagcgcg cgcgatttcc ttttgaaaaa gggtcggggg 23640  
gtgtacctg accccagac cggcgaggaa ctcaaccgt ccacactctc cgtcgaagca 23700  
gccccccga gacatgccgc ccaaggaac cgccaagcag ctgatcgctc ggagagagc 23760  
gaagaagcaa gagctgctcc agcagcaggt ggaggacgag gaagagatgt gggacagcca 23820  
ggcagaggag gtgtcagagg acgaggagga gatggaaagc tgggacagcc tagacgagga 23880  
ggaggacgag ctttcagagg aagaggcgac cgaagaaaaa ccacctgcat ccagcgcgcc 23940  
ttctctgagc cgacagccga agccccggcc cccgacgccc ccggccggct cactcaaagc 24000  
cagccgtagg tgggacgcca ccgaatctcc agcggcagcg gcaacggcag cgggtaaggc 24060  
caaacgcgag cggcgggggt attgctcctg gcggggccac aaaagcagta ttgtgaactg 24120  
cttgcaacac tgcgggggaa acatctcctt tgcccagcgc tacctcctct tccatcacgg 24180  
tgtggccttc cctcgcaacg ttctctatta ttaccgtcat ctctacagcc cctacgaaac 24240  
gctcggagaa aaaagctaag gcctcctccg ccgcgaggaa aaactccgcc gccgctgccg 24300  
ccgccaagga tccaccggcc accgaagagc tgagaaagcg catctttccc actctgtatg 24360  
ctatctttca gcaaagccgc gggcagcacc ctgagcgcg actgaaaata aaaaaccgct 24420  
ccttccgctc gctcaccgc agctgtctgt accacaagag agaagaccag ctgcagcgca 24480  
ccctggacga cgccgaagca ctgttcagca aatactgctc agcgtctctt aaagactaaa 24540  
agaccgcgc tttttcccc tcggccgcca aaaccacgt catcgccagc atgagcaagg 24600  
agattccac ccctacatg tggagctatc agcccagat gggcctggcc gcggggggccg 24660  
cccaggacta ctccagcaag atgaactggc tcagcgccgg cccccacatg atctcacgag 24720  
ttaacggcat ccgagcccac cgaaaccaga ttctcttaga acaggcggca atcaccgcca 24780  
caccggcg ccaactcaac ccgcctagtt ggcccgccgc ccaggtgtat caggaaaatc 24840  
cccgccgac cacagtcctc ctgccacgc acgaggaggc cgaagtcctc atgactaact 24900  
ctgggttaca attagcgggc ggggtccaggt acgccaggta cagaggtcgg gccgctcctt 24960  
actctcccgg gagtataaag aggggtgatca ttcgaggccg aggtatccag ctcaacgacg 25020  
agacggtgag ctctcaacc ggtctcagac ctgacggagt cttccagctc ggaggagcgg 25080  
gccgctcttc cttcaccact cgccaggcct acctgaccct gcagagctct tcctcgagc 25140  
cgcgctccgg gggaatcggc actctccagt tcgtggaaga gttcgttccc tccgtctact 25200  
tcaacccctt ctccggctcg cctggacgct accgggacgc cttcattccc aactttgacg 25260  
cagtgagtga atccgtggac ggctacgact gatgacagat ggtgcggccg tgagagctcg 25320  
gctgcgacat ctgcatcact gccgtcagcc tcgctgctac gctcgggagg cgatcgctt 25380  
cagctacttt gagctgccgg acgagcacc tcagggtccg gctcacgggt tgaaactcga 25440

gatcgagaac gcgctcgagt ctgcctcat cgacaccttc accgcccgaac ctctcctggt 25500  
agaaatccaa cgggggatca ctaccatcac cctgttctgc atctgcccca cgcccggatt 25560  
acatgaagat ctgtgtgtgc atctttgctc tcagttaaat aaaaactgaa ctttttgccg 25620  
caccttcaac gccatctgtg atttctacaa caaaaagtgc ttctggcaaa ggtacacaaa 25680  
ctgtatttta ttctaattct acctcatcta tcgtgctgaa ctgcgcctgc actaacgaac 25740  
ttatccagtg gattgcaaac ggtagtgtgt gcaagtactt ttgggggaac gatatagtta 25800  
gtagaaataa cagcctttgc gagcactgca actcctccac actaatcctt tatccccat 25860  
ttgttactgg atggtatatg tgcgttggtc ccggtttaa tcctagtgtc tttcataagt 25920  
ggtttctaca aaaagagacc cttcccaaca attctgtttc ttttttcgcc ctatcctact 25980  
gctgttctcc ctctggttac tctttcaaac ctctaattgg tatttttagct ttgatactca 26040  
taatctttat taactttata ataattaaca acttacagta aacatgcttg ttctactgct 26100  
cgccacatct ttcgctctct ctacgcccag aacaagtatt gttggcgag gttacaatgc 26160  
aactcttcaa tctgcttaca tgccagattc cgaccagata ccccatatta cgtggtactt 26220  
acaaacctcc aaacctaatt cttcatTTTA tgaaggaaac aaactctgcg atgactccga 26280  
caacagaacg cacacatttc cccacccttc actacaattc gaatgcgtaa acaaaagctt 26340  
gaagctttac aacttaaagc cttcagattc tggcttgtag catgctgtag ttgaaaaaag 26400  
taatttagaa gtccacagtg attacattga attgacgggt gtggacctgc cacctccaaa 26460  
atgtgaggtt tcctctctt accttgaagt tcaaggcgtg gatgcctact gcctcataca 26520  
cattaactgc agcaactcta aatatccagc tagaatttac tataatggac aggaaagtaa 26580  
tcttttttat tatttaacaa caagcgtgg taacggtaaa cagttacctg actattttac 26640  
tgctgttggt gaattttcca cctacagaga aacgtatgcc aagcggcctt acaatttctc 26700  
ataccggtt aacgacctt gcaatgaaat acaagcgtc gaaactggaa ctgattttac 26760  
tccaattttc attgctgcca ttgttgtaag ctttaattacc attattgtca gcctagcatt 26820  
ttactgcttt tacaagccca aaaaccctaa gtttgaaaaa cttaaactaa aacctgtcat 26880  
tcaacaagtg tgattttgtt ttccagcatg gtagctgcat ttctacttct cctctgtcta 26940  
cccatcattt tcgtctcttc aactttcgcc gcagtttccc acctggaacc agagtgccta 27000  
ccgccttttg acgtgtatct gattctcacc tttgtttgtt gtatatccat ttgcagtata 27060  
gcctgctttt ttataacaat ctttcaagcc gccgactatt ttacgtgcg aattgcttac 27120  
tttagacacc atcctgaata cagaaatcaa aacgttgcct cttactttg tttggcatga 27180  
ttaagttatt gctgatactt aattatttac ccctaataca ctgtaattgt ccattcacca 27240  
aaccctggtc attctacacc tgttatgata aaatccccga cactcctgtt gcttggcttt 27300  
acgcagccac cgccgctttg gtatttatat ctacttgctt tggagtaaaa ttgtatttta 27360  
ttttacacac tgggtggcta catcccagag aagatttacc tagatatcct cttgtaaacg 27420  
cttttcaatt acagcctctg cctcctcctg atcttcttcc tcgagctccc tctattgtga 27480

gctactttca actcaccggt ggagatgact gactctcagg acattaatat tagtgtggaa 27540  
agaatagctg ctacgctga gcgagaaacg cgagtgttg aatacctgga actacagcaa 27600  
cttaaagagt cccactggtg tgagaaagga gtgctgtgcc atgttaagca ggcagccctt 27660  
tcctacgatg tcagcgttca gggacatgaa ctgtcttaca ctttgccttt gcagaaacaa 27720  
accttctgca ccatgatggg ctctacctcc atcacaatca cccaacaagc cgggcctgta 27780  
gagggggcta tcctctgtca ctgtcacgca cctgattgca tgtccaaact aatcaaaaact 27840  
ctctgtgctt taggtgatat ttttaagggtg taaatcaata ataaacttac cttaaatttg 27900  
acaacaaatt tctggtgaca tcattcagca gcaccacttt accctcttcc cagctctcgt 27960  
atgggatgcg atagtgggtg gcaaaccttc tccaaaccct aaaagaaata ttggtatcca 28020  
cttccttgtc ctacccaca attttcatct tttcatagat gaaaagaacc agagttagtg 28080  
aagacttcaa ccccgcttac ccctatgaca ccacaaccac tcctgcagtt ccctttatat 28140  
cacccccctt tgtaaacagc gatgggtcttc aggaaaacc cccaggtgtt ttaagtctgc 28200  
gaatagctaa acccctatat ttcgacatgg agagaaaact agccctttca cttggaagag 28260  
ggttgacaat taccgccgcc ggacaattag aaagtacgca gagcgtacaa accaaccac 28320  
cgttgataat taccaacaac aacacactga ccctacgtca ttctcccccc ttaaacctaa 28380  
ctgacaatag cttagtgtca ggctactcga gtcctctccg cgtcacagac aacaaactta 28440  
catttaactt cacatcacca ctccgttatg aaaatgaaaa cttactttt aactatacag 28500  
agcctcttaa acttataaat aacagccttg ccattgacat caattcctca aaaggcctta 28560  
gtagcgtcgg aggctcacta gctgtaaacc tgagtgcaga cttaaagttt gacagcaacg 28620  
gatccatagc ttttggcata caaacctgt ggaccgctcc gacctcgact ggcaactgca 28680  
ccgtctacag cgagggcgat tccctactta gtctctgttt aaccaaagtc ggagctcacg 28740  
tcttaggaag tgtaagttta accggtttta caggaaccat aacccaaatg actgatattt 28800  
ctgtcaccat tcaatttaca ttgacaaca atggttaagct actaagctct ccacttataa 28860  
acaacgcctt tagtattcga cagaatgaca gtacggcctc aaaccctacc tacaacgcc 28920  
tggcgtttat gcctaacagt accatatatg caagaggggg aggtggtgaa ccacgaaaca 28980  
actactacgt ccaaacgtat cttaggggaa atgttcaaaa accaatcatt cttactgtaa 29040  
cctacaactc agtcgccaca ggatattcct tatcttttaa gtggactgct cttgcacgtg 29100  
aaaagtttgc aacccaaca acctcgtttt gctacattac agaacaataa aaccgtgtac 29160  
cccaccgttt cgtttttttc agatgaaacg ggcgagagtt gatgaagact tcaaccagct 29220  
gtacccttat gacccccac atgctcctgt tatgcccttc attactccac cttttacctc 29280  
ctcggatggg ttgcaggaaa aaccacttgg agtggttaagt ttaactaca gagatcccat 29340  
tactacgcaa aatgagtctc ttacaattaa actaggaaac ggcctcactc tagacaacca 29400  
gggacaacta acatcaaccg ctggcgaagt agaacctca ctactaacg ctaacaacaa 29460  
acttgactg gtctatagcg atccttttagc agtaaagcgc aacagcctaa ctttatcgca 29520  
caccgctccc cttgttattg ctgataactc tttagcattg caagtttcag agcctatttt 29580

tataaatgac aaggacaaac tagccctgca aacagccgcg ccccttgtaa ctaacgctgg 29640  
cacccttcgc ttacaaagcg ccgccccttt aggcattgca gaccaaacc taaaactcct 29700  
gtttaccaac cttttgtact tgcagaataa ctttctcacg ttagccattg aacgaccctt 29760  
tgccattacc aatactggaa agctggctct acagctctcc ccaccgtac aaacagcaga 29820  
cacaggcttg actttgcaa ccaacgtgcc attaactgta agcaacggga ccctaggctt 29880  
agccataaag cgcccactta ttattcagga caacaacttg tttttggact tcagagctcc 29940  
cctgcgtctt ttcaacagcg acccagtact agggcttaac ttttacacc ctcttgcggt 30000  
acgcgatgag gcgctcactg ttaacacagg ccgcggcctc acagtgagtt acgatggttt 30060  
aattttaaat cttggtaagg atcttcgctt tgacaacaac accgtttctg tcgctcttag 30120  
tgctgctttg cttttacaat acactgatca gcttcgcctt aacgtgggcg ctgggctgcg 30180  
ttacaatcca gtgagtaaga aattggacgt gaaccccaat caaaacaagg gtttaacctg 30240  
ggaaaatgac tacctcattg taaagctagg aaatggatta ggttttgatg gcgatggaaa 30300  
catagctgtt tctcctcaag ttacatcgcc tgacacctta tggaccactg ccgacccatc 30360  
ccccaattgt tccatctaca ctgatttaga tgccaaaatg tggctctcgt tggtaaaaca 30420  
agggggtgtg gttcacggtt ctgttgcttt aaaagcattg aaaggaaccc tattgagtcc 30480  
tacggaaagc gccattgtta ttatactaca ttttgacaat tatggagtgc gaattctcaa 30540  
ttatccact ttgggcactc aaggcacgtt gggaaataat gcaacttggg gttataggca 30600  
gggagaatct gcagacacta atgtactcaa tgcactagca tttatgcca gttcaaaaag 30660  
gtacccaaga gggcgaggaa gcgaagtcca gaatcaaaact gtgggctaca cttgtataca 30720  
gggtgacttt tctatgcccg taccgtacca aatacagtac aactatggac caactggcta 30780  
ctcctttaaa tttatttga gaactgtttc aagacaacca tttgacatcc catgctgttt 30840  
tttctcttac attacggaag aataaaacaa ctttttcttt ttattttctt tttattttac 30900  
acgcacagta aggcttcctc cacccttcca tctcacagca tacaccagcc tctccccctt 30960  
catggcagta aactgttggt agtcagtccg gtatttggga gttaagatcc aaacagtctc 31020  
tttggtgatg aaacatggat ccgtgatgga cacaaatccc tgggacaggt tctccaacgt 31080  
ttcggtaaaa aactgcatgc cgccctacaa aacaaacagg ttcaggctct ccacgggtta 31140  
tctccccgat caaactcaga cagagtaaag gtgcgatgat gttccactaa accacgcagg 31200  
tggcgctgtc tgaacctctc ggtgcgactc ctgtgaggct ggtaagaagt tagattgtcc 31260  
agcagcctca cagcatggat catcagtcta cgagtgcgtc tggcgagca gcgcatctga 31320  
atctcactga gattccggca agaatcgac accatcacia tcaggttgtt catgatccca 31380  
tagctgaaca cgctccagcc aaagctcatt cgctccaaca gcgccaccgc gtgtccgtcc 31440  
aaccttactt taacataaat cagggtgtctg ccgcgtacaa acatgctacc cgcatacaga 31500  
acctccggg gcaaaccctt gttcaccacc tgcctgtacc agggaaacct cacatttatc 31560  
agggagccat agatagccat tttaaacc aa ttagctaaca ccgccccacc agctctacac 31620

tgaagagaac cgaggagagtt acaatgacag tgaataatcc atctctcata acccctaattg 31680  
 gtctgatgga aatccagatc taacgtggca cagcagatac acactttcat atacattttc 31740  
 atcacatgtt tttcccaggc cgtaaata caatcccaat acacgggcca ctctgcagt 31800  
 acaataaagc taatacaaga tggatatactc ctacactcac taacattgtg catgttcata 31860  
 ttttcacatt ctaagtaccg agagtttctcc tctacaacag cactgccgcg gtcctcacia 31920  
 ggtggtagct ggtgacgatt gtaaggagcc agtctgcagc gataccgtct gtcgcgttgc 31980  
 atcgtagacc agggaccgac gcacttcctc gtactttag tagcagaacc acgtccgctg 32040  
 ccagcacgtc tccaagtaac gccggtccct gcgtcgtca cgctccctcc tcaacgcaaa 32100  
 gtgcaaccac tcttgtaatc cacacagatc cctctcggcc tccggggcga tgcacacctc 32160  
 aaacctacag atgtctcggc acagttccaa acacgtagtg agggcgagtt ccaaccaaga 32220  
 cagacagcct gatctatccc gacacactgg aggtggagga agacacggaa gaggcattgtt 32280  
 attccaagcg attcaccaac gggtcgaaat gaagatcccg aagatgacaa cggtcgcctc 32340  
 cggagccctg atggaattta acagccagat caaacattat gcgattttcc aggctatcaa 32400  
 tcgcggcctc caaaagagcc tggacccgca cttccacaaa caccagcaaa gcaaaagcgt 32460  
 tattatcaaa ctcttcgatc atcaagctgc aggactgtac aatgccaag taattttcat 32520  
 ttctccactc gcgaatgatg tcgcggcaaa tagtctgaag gttcatgccg tgcattataa 32580  
 aaagctccga aaggcgcccc tctatagcca tgcgtagaca caccatcatg actgcaagat 32640  
 atcgggctcc tgagacacct gcagcagatt taacagaccc aggtcagggt gctctccgcg 32700  
 atcgcgaatc tccatccgca aagtcatttg caaataatta aatagatctg cgccgactaa 32760  
 atctgttaac tccgcgctag gaactaaatc aggtgtggct acgcagcaca aaagttccag 32820  
 ggatggcgcc aaactcacta gaaccgctcc cgagtagcaa aactgatgaa tgggagtaac 32880  
 acagtgtaaa atgttcagcc aaaaatcact aagctgctcc tttaaaaagt ccagtacttc 32940  
 tatattcagt tcgtgcaagt actgaagcaa ctgtgcggga atatgcacag caaaaaaat 33000  
 agggcggtc agatacatgt tgacctaaaa taaaaagaat cattaaacta aagaagcctg 33060  
 gcgaacggtg ggatatatga cacgctccag cagcaggcaa gcaaccggct gtccccggga 33120  
 accgcggtaa aattcatccg aatgattaaa aagaacaaca gagacttccc accatgtact 33180  
 cggttggatc tcctgagcac agagcaatac cccctcaca ttcattatccg ctacagaaaa 33240  
 aaaacgtccc agataccag cgggaatatc caacgacagc tgcaaagaca gcaaaacaat 33300  
 ccctctggga gcaatcacia aatctccgg tgaaaaaagc acatacatat tagaataacc 33360  
 ctgttgctgg ggcaaaaagg ccgctcgtcc cagcaaatgc acataaatat gttcatcagc 33420  
 cattgccccg tcttaccgag taaacagcca cgaaaaatc gagctaaaat ccaccaaca 33480  
 gcctatagct atatatacac tccaccaat gacgctaata ccgcaccacc cagacaaaa 33540  
 gttcaccac acccaciaaa cccgcgaaaa tccagcgccg tcagcacttc cgcaatttca 33600  
 gtctcacaac gtcacttccg cgcgcctttt cactttcca cacacgcctc tcgcccggcc 33660  
 gccctcgcgc cccccgcgt cccccacgt caccgcagc cccccggcc ccgcctcgt 33720

```

cctccccgct cattatcata ttggcacggt tccagaataa ggtatattat tgatgcagca 33780
aaacaatccc tctgggagca atcacaaaat cctccggtga aaaaagcaca tacatattag 33840
aataaccctg ttgctggggc aaaaaggccc gtcgtcccag caaatgcaca taaatatgtt 33900
catcagccat tgccccgtct taccgcgtaa acagccacga aaaaatcgag ctaaaatcca 33960
cccaacagcc tatagctata tatacactcc acccaatgac gctaataccg caccacccac 34020
gaccaaagt caccacacac cacaaaaccc gcgaaaatcc agcgccgtca gcacttccgc 34080
aatttcagtc tcacaacgtc acttccgcgc gccttttcac tttccacac acgcccttcg 34140
cccgccgcc ctcgcgccac ccgcggtcac ccacgtcac cgcacgtcac cccggccccg 34200
cctcgctcct ccccgctcat tatcatattg gcacgtttcc agaataagggt atattattga 34260
tgca 34264

```

```

<210> 5
<211> 31044
<212> DNA
<213> simian adenovirus SV-25

```

```

<400> 5
catcatcaat aatatacctt attctggaaa cgtgccataa tgataatgag cggggaggag 60
cgaggcgggg ccgggggtgac gtgcggtgac gcggggtggc gcgaggcg ggcaagggc 120
gcgggtgtgt gtgtgggagg cgcttagttt ttacgtatgc ggaaggagggt tttataccgg 180
aagatgggta atttgggcgt atacttgtaa gttttgtgta atttggcgcg aaaactgggt 240
aatgaggaag ttgagggttaa tatgtacttt ttatgactgg gcggaatttc tgctgatcag 300
cagtgaactt tgggcgctga cggggagggt tcgctacgtg acagtaccac gagaaggctc 360
aaaggtccca tttattgtac tcttcagcgt tttcgctggg tatttaaagc ctgtcagatc 420
atcaagaggc cactcttgag tgctggcgag aagagttttc tcctccgtgc tgccacgatg 480
aggctggtcc ccgagatgta cgggtgtttt agcgacgaga cgggtgcgtaa ctcatgatgac 540
ctgctgaatt cagacgcgct ggaaatttcc aattcgctg tgctttcgcc gccgtcactt 600
cacgacctgt ttgtgttttg gctcaacgct tagcaacgtg ttatataggg tcaagaagga 660
gcaggagacg cagtttgcta ggctgttggc cgatactcct ggagttttg tggtcttga 720
tctaggccat cactctcttt tccaagagaa aattatcaaa aacttaactt ttacgtctcc 780
tggtcgcacg gttgcttccg ctgcctttat tacctatatt ttggatcaat ggagcaacag 840
cgacagccac ctgtcgtggg agtacatgct ggattacatg tcgatggcgc tgtggagggc 900
catgctgcgg aggaggggtt gcatttactt gcgggcgcag cctccgcggc tggaccgagt 960
ggaggaggag gacgagccgg gggagaccga gaacctgagg gccgggctgg accctccaac 1020
ggaggactag gtgctgagga tgatcccgaa gaggggacta gtggggctag gaagaagcaa 1080
aagactgagt ctgaacctcg aaactttttg aatgagttga ctgtgagttt gatgaatcgt 1140
cagcgtccgg agacaatttt ctggcttgaa ttggaggagg aattcaggag gggggaactg 1200
aacctgctat acaagtatgg gtttgaacag ttaaaaactc actggttga gccgtgggag 1260

```

gattttgaaa ccgccttgga cacttttgct aaagtggctc tgcggccgga taaggtttac	1320
actatccgcc gcactgttaa cataaagaag agtgtttatg ttataggcca tggagctctg	1380
gtgcagggtgc aaaccgtcga ccgggtggcc tttagttgcg gtatgcaaaa tctgggcccc	1440
ggggtgatag gcttaaatgg tgtaacattt cacaatgtaa ggtttactgg tgaaagtttt	1500
aacggctctg tgtttgcaaa taacacacag ctgacgctcc acggcgttta cttttttaac	1560
tttaataaca catgtgtgga gtcgtggggc aggggtgtctt tgaggggctg ctgttttcac	1620
ggctgctgga aggcgggtggg gggaaagactt aaaagtgtaa catctgtaaa aaaatgcgtg	1680
tttgagcggg gtgtgttggc ttttaactgtg gagggctgtg gacgcattag gaataatgcg	1740
gcgtctgaga atggatgttt tcttttgcta aaaggcacgg ctagtattaa gcataacatg	1800
atatgcggca gcggtctgta cccttcacag ctgttaactt gcgcggatgg aaactgtcag	1860
accttgcgca ccgtgcacat agcgtcccac cagcgccgcg cctggccaac attcgagcac	1920
aatatgctta tgcgttggtc cgtccacttg ggccctaggc gaggcgtgtt tgtgccttac	1980
cagtgtaaact ttagccatac caagatttta ctagaacctg ataccttctc tcgagtgtgt	2040
ttcaatgggg tgtttgacat gtcaatggaa ctgttttaaag tgataagata tgatgaatcc	2100
aagtctcgtt gtcgcccacg tgaatgcgga gctaatacgc tgagggttga tcctgtaacc	2160
ctaaacgtta ccgaggagct gaggacggat caccacatgt tgcctgcct gcgcaccgac	2220
tatgaatcca gcgacgagga gtgagggtgag gggcgagacc acaaagggtg taaaggggcg	2280
tgaggggtgg gtgtgatgat tcaaaatgag cgggacgacg gacggcaacg cgtttgaggg	2340
tggagtgttc agcccttatc tgacatctcg tcttccttcc tgggcaggag tgcgtcagaa	2400
tgtagtgggc tccaccgtgg acggacgacc ggtcgcccct gcaaattccg ccaccctcac	2460
ctatgccacc gtgggatcat cgttgacac tgccgaggca gctgccgctt ctgctgccgc	2520
ttctactgct cgcggcatgg cggctgattt tggactgtat aaccaactgg ccactgcagc	2580
tgtggcgtct cggctcttgg ttcaagaaga tgccctgaat gtgatcctga ctcgcctgga	2640
gatcatgtca cgtcgcttgg acgaactggc tgcgcagata tcccaagcta accccgatac	2700
cacttcagaa tcctaaaata aagacaaaca aatatgttga aaagtaaaat ggctttattt	2760
gttttttttg gctcggtagg ctcgggtcca cctgtctcgg tcgttaagaa ctttgtgtat	2820
gttttccaaa acacggtaca gatgggcttg gatgttcaag tacatgggca tgaggccatc	2880
tttggggtga agataggacc attgaagagc gtcatgctcc ggggtggtgt tgtaaattac	2940
ccagtcgtag cagggtttct gggcgaggaa ctggaagatg tccttttagga gtaggctgat	3000
ggccaagggc aggcccttag tgtaggtgtt tacaaagcgg ttaagctggg agggatgcat	3060
gcggggggag atgatatgca tcttggttg gatcttgagg ttagctatgt taccaccag	3120
gtctctgcgg gggttcatgt tatgaaggac caccagcacg gtgtagccgg tgcatttggg	3180
gaacttgtca tgcagtttgg aggggaaggc gtggaagaat ttagagaccc cttgtggcc	3240
ccctaggttt tccatgcact catccataat gatggcaatg ggacccttg cgccgcttt	3300

ggcaaacacg ttttgggggt tggaaacatc atagttttgc tctagagtga gctcatcata 3360  
ggccatctta acaaaagcggg gtaggagggg gcccgactgg gggatgatag ttccatctgg 3420  
gcctggggcg tagttaccct cacagatctg catctcccag gccttaattt ccgagggggg 3480  
tatcatgtcc acctgggggg caataaagaa cacggtttct ggcgggggat tgatgagctg 3540  
ggtggaagc aagttacgca gcagttgaga tttgccacag ccggtggggc cgtagatgac 3600  
cccgatgacg ggttgcagct ggtagttgag agaggaacag ctgccgtcgg ggcgcaggag 3660  
gggggctacc tcattcatca tgcttctaac atgtttatct tcactcacta agttttgcaa 3720  
gagcctctcc ccaccaggg ataagagttc ttccaggctg ttgaagtgtt tcagcggttt 3780  
taggccgtcg gccatgggca tcttttcgag cgactgacga agcaagtaca gtcggtccca 3840  
gagctcgggt acgtgctcta tggaatctcg atccagcaga cttcttggtt gcggggggtg 3900  
ggtcgacttt cgctgtaggg caccagccgg tgggcgtcca gggccgcgag ggttctgtcc 3960  
ttccagggtc tcagcgtccg ggtgaggggt gtctcgggtga cggagaagg atgagccccg 4020  
ggctgggccc ttgcgagggg gcgcttcagg ctcatcctgc tgggtgctgaa gcggacgtcg 4080  
tctcctgtg agtcggccag atagcaacga agcatgaggt cgtagctgag ggactcggcc 4140  
gcgtgtccct tggcgcgcag ctttcccttg gaaacgtgct gacatttggg gcagtgcaga 4200  
cattggaggg cgtagagttt gggggccagg aagaccgact cgggcgagta ggcgtcggct 4260  
ccgcactgag cgcagacggt ctgcactcc actagccacg tgagctcggg tttagcggga 4320  
tcaaaaacca agttgcctcc attttttttg atgcggttct taccttgctg ttccatgagt 4380  
ttgtggcccc cttccgtgac aaaaaggctg tcggtgtctc cgtagacaga cttgaggggg 4440  
cgatcttcca aagggtgttc gaggtcttcc gcgtacagga actgggacca ctccgagacg 4500  
aaggctctgg tccaggctaa cacgaaggag gcaatctgcg aggggtatct gtcgttttca 4560  
atgagggggg ccaccttttc cagggtgtgc agacacaggt cgtcctctc cgcgctccacg 4620  
aagggtgatt gcttgtaagt gtaggtcacg tgatctgcac ccccaaagg ggtataaaag 4680  
ggggcggtgc caccctctcc gtcactttct tccgcatcgc tgtggaccag agccagctgt 4740  
tcgggtgagt aggccctctc aaaagccggc atgatctcgg cgctcaagtt gtcagtttct 4800  
acaaacgagg tggatttgat attcacgtgc cccgcggcga tgcttttgat ggtggagggg 4860  
tccatctgat cagaaaacac gatctttttg ttgtcaagtt tgggtggcgaa agaccgtag 4920  
agggcggttg aaagcaactt ggcgatggag cgcagggtct gatcttctc ccgatcggcc 4980  
ctctccttgg cggcgatggt gagttgcacg tactcccggg ccgcgcaccg cactcgggg 5040  
aacacggcgg tgcgctcgtc gggcaggatg cgcacgcgcc agccgcgatt gtgcaggggtg 5100  
atgaggtcca cgctggtagc cacctccccg cggaggggct cgttggtcca acacaatcgc 5160  
cccccttttc tggagcagaa cggaggcagg ggatctagca agttggcggg cgggggggtcg 5220  
gcgtcgatgg tgaagatacc gggtagcagg atcttattaa aataatcgat ttcggtgtcc 5280  
gtgtcttgca acgcgtcttc ccacttcttc accgccaggg ccctttcgta gggattcagg 5340  
ggcgggtccc agggcatggg gtgggtcagg gccgaggcgt acatgccgca gatgtcatac 5400

acgtacaggg gttccctcaa cccccgatg taagtggggt aacagcgccc cccgcggatg	5460
ctggctcgca cgtagtcgta catctcgcgc gagggagcca tgaggccgtc tccaagtgg	5520
gtcttgtagg gtttttcggc ccggtagagg atctgtctga agatggcgtg ggagttggaa	5580
gagatggtgg ggcgttgga gacgttaaag ttggccccgg gtagtcccac ggagtcttgg	5640
atgaactggg cgtaggattc ccggagtttg tccaccaggg cggcggtcac cagcacgtcg	5700
agagcgcagt agtccaacgt ctgcgcggacc aggttgtagg ccgtctcttg ttttttctcc	5760
cacagttcgc ggttgaggag gtattcctcg cggcttttcc agtactcttc ggcgggaaat	5820
cctttttcgt ccgctcggtg agaacctaac atgtaaaatt cgttcaccgc tttgtatgga	5880
caacagcctt tttctaccgg cagggcgtag gcttgagcgg cttttctgag agagggtgtg	5940
gtgagggcga aggtgtccc caccatcact ttcaggtact gatgtttgaa gtccgtgtcg	6000
tcgcaggcgc cctgttccca cagcgtgaag tcggtgcgct ttttctgcct gggattgggg	6060
agggcgaagg tgacatcggt aaagagtatt ttcccgcgcc ggggcatgaa gttgcgagag	6120
atcctgaagg gcccgggcac gtccgagcgg ttgttgatga cctgcgccgc caggacgatc	6180
tcgtcgaagc cgttgatgtt gtgaccacg atgtaaagt cgatgaagcg cggctgtccc	6240
ttgagggccg gcgctttttt caactcctcg taggtgagac agtccggcga ggagagacct	6300
agctcagccc gggcccagtc ggagagttga ggattagccg caaggaagga gctccataga	6360
tccaaggcca ggagagtttg caagcggtcg cggaaactcg ggaacttttt cccacggcc	6420
attttctccg gtgtcactac gtaaaagggt ttggggcggt tgttccacac gtcccatcgg	6480
agctctaggg ccagctcgca ggcttggcga acgagggctt cctcgccaga gacgtgcatg	6540
accagcataa aggggtacaa ctgtttcccg aacgagccca tccatgtgta ggtttctacg	6600
tcgtaggtga caaagagccg ctgggtgcgc gcgtgggagc cgatcgaaa gaagctgatc	6660
tcctgccacc agctggagga atgggtgtta atgtgtgga agtagaagtc ccgccggcgc	6720
acagagcatt cgtgctgatg tttgtaaaag cgaccgcagt agtcgcagcg ctgcacgctc	6780
tgatctcct gaacgagatg cgcttttcgc ccgcgcacca gaaaccggag ggggaagttg	6840
agacgggggg ctggtggggc gacatccct tcgccttggc ggtgggagtc tgcgtctgcg	6900
tcctccttct ctgggtggac gacggtgggg acgacgacgc cccgggtgcc gcaagtccag	6960
atctccgcca cggaggggtg caggcgctgc aggaggggac gcagctgccc gctgtccagg	7020
gagtcgaggg aagtcgcgct gaggtcggcg ggaagcgttt gcaagttcac tttcagaaga	7080
ccggtaaagag cgtgagccag gtgcagatgg tacttgattt ccaggggggt gttggatgaa	7140
gcgtccacgg cgtagaggag tccgtgtccg cgcggggcca ccaccgtgcc ccgaggaggt	7200
tttatctcac tcgtcagagg cgagcgccgg ggggtagagg cggctctgcg ccggggggca	7260
gcggaggcag aggcacgttt tcgtgaggat tcggcagcgg ttgatgacga gcccgagac	7320
tgctggcgtg ggcgacgacg cggcggttga ggtcctggat gtgccgtctc tgcgtgaaga	7380
ccaccggccc ccgggtcctg aacctaaaga gagttccaca gaatcaatgt ctgcatcggt	7440

aacggcgggcc	tgcttgagga	tctcctgcac	gtcgcccgag	ttgtcctgat	aggcgatctc	7500
ggccatgaac	tggtccactt	cttcctcgcg	gaggtcaccg	tggtccgctc	gctccacggt	7560
ggcggccagg	tcgttgagga	tgcggcgcac	gagttgagag	aaggcgttga	ggccgttctc	7620
gttccacacg	cggctgtaca	ccacgtttcc	gaaggagtcg	cgcgctcgca	tgaccacctg	7680
ggccacgttg	agttccacgt	ggcgggcgaa	gacggcgtag	tttctgaggc	gctggaagag	7740
gtagttgagc	gtggtggcga	tgtgctcgca	gacgaagaag	tacataatcc	agcgccgcag	7800
ggtcatctcg	ttgatgtctc	cgatggcttc	gagacgctcc	atggcctcgt	agaagtcgac	7860
ggcgaagttg	aaaaattggg	agttgcgggc	ggccaccgtg	agttcttctt	gcaggaggcg	7920
gatgagatcg	gcgaccgtgt	cgcgcacctc	ctgttcgaaa	gcgccccgag	gcgcctctgc	7980
ttcttcctcc	ggctcctcct	cttcaggggg	ctcgggttcc	tccggcagct	ctgcgacggg	8040
gacggggcg	cgacgtcgtc	gtctgaccgg	caggcggtcc	acgaagcgct	cgatcatttc	8100
gccgcgccgg	cgacgcatgg	tctcggtgac	ggcgcgtccg	tttctcgag	gtcgcagttc	8160
gaagacgccg	ccgcgcagag	cgcggcggtg	cagggaagggt	aagtggtag	ggccgtcggg	8220
cagggaacacg	gcgctgacga	tgcatTTTTAT	caattgctgc	gtaggcactc	cgtgcaggga	8280
tctgagaacg	tcgaggtcga	cggtatccga	gaacttctct	aggaaagcgt	ctatccaatc	8340
gcaatcgcaa	ggtaagctga	gaacgggtggg	tcgctggggg	gcgttcgcgg	gcagttggga	8400
ggtgatgctg	ctgatgatgt	aattaaagta	ggcgggtctt	aggcggcgga	tggtggcgag	8460
gaggaccacg	tctttggggc	cggcctgttg	aatgcgcagg	cgctcgcca	tgccccaggc	8520
ctcgctctga	cagcgacgca	ggtctttgta	gaagtcttgc	atcagtctct	ccaccggaac	8580
ctctgcttct	ccccgtctg	ccatgcgagt	cgagccgaac	ccccgcaggg	gctgcagcaa	8640
cgctaggtcg	gccacgaccc	tttcggccag	cacggcctgt	tgaatctgcg	tgagggtggc	8700
ctggaagtcg	tccaggtcca	cgaagcggtg	ataggcccc	gtgttgatgg	tgtaggtgca	8760
gttggccatg	acggaccagt	tgacgacttg	catgccgggt	tgggtgatct	ccgtgtactt	8820
gaggcgcgag	taggccctgg	actcgaacac	gtagtcgttg	catgtgcgca	ccagatactg	8880
gtagccgacc	aggaaagtga	gaggcggtc	tcggtacagg	ggccagccaa	cgggtggcggg	8940
ggcgcggggg	gacaggtcgt	ccagcatgag	gcgggtgtag	tggtagatgt	agcgggagag	9000
ccaggtgatg	ccggccgagg	tggttgcggc	cctggtgaat	tcgcggacgc	ggttccagat	9060
gttgcgcagg	ggaccaaagc	gctccatggt	gggcacgctc	tgccccgtga	ggcgggcgca	9120
atcttgtacg	ctctagatgg	aaaaaagaca	gggcgggtcat	cgactccttt	ccgtagcttg	9180
gggggtaaaag	tcgcaagggt	gcggcggcgg	ggaaccccg	ttcgagaccg	gccggatccg	9240
ccgtccccga	tgcgctggc	ccgcaccca	cgacgtccgc	gccgagaccc	agccgcgacg	9300
ctccgccccca	atacggaggg	gagtcttttg	gtgttttttc	gtagatgcat	ccggtgctgc	9360
ggcagatgcg	acccagacg	cccactacca	ccgccgtggc	ggcagtaaac	ctgagcggag	9420
gcggtgacag	ggaggaggaa	gagctggctt	tagacctgga	agagggagag	gggctggccc	9480
ggctgggagc	gccatccccca	gagagacacc	ctagggttca	gctcgtgagg	gacgccaggc	9540

aggccttttgt gccgaagcag aacctgttta gggaccgcag cggtcaggag gcggaggaga 9600  
 tgcgcgattg caggtttcgg gcgggcagag agctcagggc gggcttcgat cgggagcggc 9660  
 tcctgagggc ggaggatttc gagcccgcag agcgttcttg ggtgagcccg gcccgcgctc 9720  
 acgtatcggc ggccaacctg gtgagcgcgt acgagcagac ggtgaacgag gagcgcaact 9780  
 tccaaaagag ctttaacaat cacgtgagga ccttgatcgc gagggaggag gtgaccatcg 9840  
 ggctgatgca tctgtgggac ttcgtggagg cctacgtgca gaacccggct agcaaacccc 9900  
 tgacggccca gctgttcctg atcgtgcagc acagccgcga caacgagacg ttccgcgacg 9960  
 ccatgttgaa catcgaggag cccgagggtc gctggctctt ggatctgatt aacatcctgc 10020  
 agagcatcgt ggtgcaggag aggggcctga gtttagcgga caaggtggcg gccattaact 10080  
 attcgatgca gagcctgggg aagtcttacg ctcgcaagat ctacaagagc ccttacgtgc 10140  
 ccatagacaa ggaggtgaag atagacagct ttacatgcg catggcgctg aaggtgctga 10200  
 cgctgagcga cgacctcggc gtgtaccgta acgacaagat ccacaaggcg gtgagcgcca 10260  
 gccgccggcg ggagctgagc gacagggagc tgatgcacag cctgcagagg gcgctggcg 10320  
 gcgccgggga cgaggagcgc gaggcttact tcgacatggg agccgatctg cagtggcgctc 10380  
 ccagcgcgcg cgccttgagg gcggcggggt atcccgacga ggaggatcgg gacgatttgg 10440  
 aggaggcagg cgagtacgag gacgaagcct gaccgggcag gtgttggttt agatgcagcg 10500  
 gccggcggac gggaccaccg cggatcccgc acttttgga tccatgcaga gtcaaccttc 10560  
 gggcgtgacc gcctccgatg actgggcggc ggccatggac cgcacatgg cgctgaccac 10620  
 ccgcaacccc gaggccttta ggcagcaacc ccaggccaac cgtttttcgg ccatcttga 10680  
 agcggtggtg ccgtcgcgca ccaacccgac gcacgagaaa gtcctgacta tcgtgaacgc 10740  
 cctggtagac agcaaggcca tccgccgtga cgaggcggc ttgatttaca acgctctttt 10800  
 ggaacgcgtg gcgcgctaca acagcactaa cgtgcagacc aatctggacc gcctcaccac 10860  
 cgacgtgaag gaggcgctgg cgcagaagga gcggtttctg agggacagta atctgggctc 10920  
 tctggtggca ctgaacgcct tcctgagctc acagccggcc aacgtgcccc gcgggcagga 10980  
 ggattacgtg agcttcatca gcgctctgag actgctggtg tccgaggtgc ccagagcga 11040  
 ggtgtaccag tctgggcccg attacttttt ccagacgtcc cgacagggt tgcaaacggt 11100  
 gaacctgact caggccttta aaaacttgca aggcattgtg ggggtcaagg ccccggtggg 11160  
 cgatcgcgcc actatctcca gtctgctgac cccaacact cgctgctgc tgctcttgat 11220  
 cgcaccgttt accaacagta gcaactatcag ccgtgactcg tacctgggtc atctcatcac 11280  
 tctgtaccgc gaggccatcg gccaggctca gatcgacgag catacgtatc aggagattac 11340  
 taacgtgagc cgtgccctgg gtcaggaaga taccggcagc ctggaagcca cgttgaactt 11400  
 tttgctaacc aaccggaggc aaaaaatacc ctcccagttc acgttaagcg ccgaggagga 11460  
 gaggattctg cgatacgtgc agcagtcctg gagcctgtac ttgatgcgcg agggcgccac 11520  
 cgcttcacg gctttagaca tgacggctcg gaacatggaa ccgtcctttt actccgcca 11580

ccggccgttc attaacgcgtc tgatggacta cttccatcgc gcggccgcca tgaacgggga 11640  
gtacttcacc aatgccatcc tgaatccgca ttggatgccc ccgtccggct tctacaccgg 11700  
ggagtttgac ctgcccgaag ccgacgacgg ctttctgtgg gacgacgtgt ccgatagcat 11760  
tttcacgccg gctaatacgcc gattccagaa gaaggagggc ggagacgagc tccccctctc 11820  
cagcgtggaa gcggcctcaa ggggagagag tccctttcca agtctgtctt ccgccagtag 11880  
cggtcgggta acgcgtccac ggttgccggg ggagagcgac tacctgaacg accccttgct 11940  
gcgaccggct agaaagaaaa attttcccaa taacggggtg gaaagcttgg tggataaaat 12000  
gaatcgttgg aagacgtacg cccaggagca gcgggagtg gaggacagtc agccgcggcc 12060  
gctggtaccg ccgcattggc gtcgccagag agaagacccg gacgactccg cagacgatag 12120  
tagcgtgttg gacctgggag ggagcgagc caaccccttt gctcacttgc aaccaaggg 12180  
gcgctcgagt cgcctgtatt aataaaaaag acgcggaaac ttaccagagc catggccaca 12240  
gcgtgtgtgc tttcttcctc tctttcttcc tcggcgcggc agaatagagaa gagcggtag 12300  
agtcacgccg gcggcgtatg agggcccgc cccttcttac gaaagcgtga tgggatcagc 12360  
gaacgtgccg gccacgctgg aggcgcctta cgttcctccc agatacctgg gacctacgga 12420  
gggcagaaac agcatccgtt actccgagct ggcgcccctg tacgatacca ccaagggtga 12480  
cctggtggac aacaagtcgg cggacatcgc ctccctgaat taccaaacg atcacagtaa 12540  
ctttctgact accgtggtgc agaacaatga cttacccccg acggaggcgg gcacgcagac 12600  
cattaacttt gacgagcgtt cccgctgggg cggtcagctg aaaaccatcc tgcacaccaa 12660  
catgcccac atcaacgagt tcatgtccac caacaagttc agggctaagc tgatggtaga 12720  
aaaaagtaat gcggaaatc ggcagccccg atacgagtggt ttcgagtta ccattccaga 12780  
gggcaactat tccgaaacta tgactatcga tctcatgaat aacgcgatcg tggacaatta 12840  
cctgcaagtg gggagacaga acggggtgct ggaagcgat atcggcgatg aattcgatac 12900  
cagaaacttc cgactggggg gggatccgt gaccaagctg gtgatgccag gcgtgtacac 12960  
caacgaggct tttaccccg acatcgtgct gctgccgggg tgcggtgtgg acttcactca 13020  
gagccgtttg agtaacctgt taggaattag aaagcgccgc cccttccaag agggctttca 13080  
aatcatgtat gaggacctg agggaggtaa tatacccgcc ttactggacg tgtcgaagta 13140  
cgaagctagc atacaacgcg ccaagcgga gggtagagag attcggggag acacctttgc 13200  
ggtagctccc caggacctg aaatagtgc ttaactaaa gacagcaaag acagaagcta 13260  
caatattata aacaacacga cggacaccct gtatcggagc tggtttctgg cttacaacta 13320  
cggagacccc gagaaaggag tgagatcatg gaccatactc accaccacgg acgtgacctg 13380  
tggctcgcag caagtgtact ggtccctgcc ggatatgatg caagaccgg tcaccttcg 13440  
ccctccacc caagtcagca acttcccgtt ggtgggcacc gagctgctgc ccgtccatgc 13500  
caagagcttc tacaacgagc aggcgtcta ctcgcaactt attcgccagt ccaccgcgt 13560  
taccacgtg ttcaatcgct tccccagaa ccagattctg gtgcgccctc ccgtcctac 13620  
cattaccacc gtcagtgaac acgttccgc cctcacagat cacggaaccc tgccgtgcg 13680

cagcagtatc agtggagttc agcgcgtgac catcaccgac gccagacgtc gaacctgccc 13740  
ctacgttttac aaagcgcttg gcgtggtggc tcctaaagtt ctttctagtc gcaccttcta 13800  
aaaacatgtc catcctcatc tctcccgata acaacaccgg ctggggactg ggctccggca 13860  
agatgtacgg cggagccaaa aggcgctcca gtcagcacc agttcgagtt cggggccact 13920  
tccgcgctcc ttggggagct tacaagcgag gactctcggg tcgaacggct gtagacgata 13980  
ccatagatgc cgtgattgcc gacgcccgcc ggtacaaccc cggaccggtc gctagcgccg 14040  
cctccaccgt ggattccgtg atcgacagcg tggtagccgg cgctcgggccc tatgctcgcc 14100  
gcaagaggcg gctgcatcgg agacgtcgcc ccaccgccgc catgctggca gccaggggccg 14160  
tgctgaggcg ggcccggagg gcaggcagaa gggctatgcg ccgcgctgcc gccaacgccg 14220  
ccgccgggag ggcccgccga caggctgccc gccaggctgc cgctgccatc gctagcatgg 14280  
ccagaccag gagagggaac gtgtactggg tgcgtgattc tgtgacggga gtccgagtgc 14340  
cggtgcgag ccgacctccc cgaagttaga agatccaagc tgcaagacg gcggtactga 14400  
gtctccctgt tgttatcagc ccaacatgag caagcgcaag tttaaagaag aactgctgca 14460  
gacgctggtg cctgagatct atggccctcc ggacgtgaag ccagacatta agccccgca 14520  
tatcaagcgt gttaaaaagc gggaaaagaa agaggaaactc gcggtggtag acgatggcgg 14580  
agtggaaattt attaggagtt tcgccccgcg acgcagggtt caatggaaaag ggcggcgggt 14640  
acaacgcgtt ttgaggccgg gcaccgcggt agtttttacc ccgggagagc ggtcggccgt 14700  
taggggtttc aaaaggcagt acgacgaggt gtacggcgac gaggacatat tggaacaggc 14760  
ggctcaacag atcggagaat ttgcctacgg aaagcgttcg cgtcgcgaag acctggccat 14820  
cgcttagac agcggcaacc ccacgcccag cctcaaacc gtgacgctgc agcaggtgct 14880  
tcccgtgagc gccagcacgg acagcaagag ggggattaag agagaaatgg aagatctgca 14940  
tcccaccatc caactcatgg tccctaaacg gcagaggctg gaagagggtcc tggagaagat 15000  
gaaagtggac cccagcatag agccggatgt aaaagtcaga cctattaagg aagtggcccc 15060  
cggctcttggg gtgcaaacgg tggacattca aatccccgtc accaccgctt caaccgccgt 15120  
ggaagctatg gaaacgcaaa cggagacccc tgccgcgac ggtaccaggg aagtggcgtt 15180  
gcaaacggag ctttggtagc aatacgcagc ccctcggcgt cagaggcggt ccgctcgta 15240  
cggccccgcc aacgccatca tgccagaata tgcgctgcat ccgtctattc tgcccactcc 15300  
cggataccgg ggtgtgacgt atcggccgtc tggaaccgc cggcgaaccc gtcgccgccg 15360  
ccgctcccgt cgcgctctgg ccccgtgtc ggtgcggcgt gtgaccgcc ggggaaagac 15420  
agtcgtcatt cccaaccgc gttaccaccc tagcatcctt taataactct gccgttttgc 15480  
agatggctct gacttgccgc gtgcgccttc ccgttcgca ctatcgagga agatctcgtc 15540  
gtaggagagg catgacgggc agtggtcgcc ggcgggcttt gcgcaggcgc atgaaaggcg 15600  
gaattttacc cgccctgata ccataattg ccgccccat cggtgccata cccggcggtg 15660  
cttcagtggc gttgcaagca gtcgtaata aataa caaaa ggcttttgca cttatgacct 15720

ggtcctgact attttatgca gaaagagcat ggaagacatc aattttacgt cgctggctcc 15780  
gcggcacggc tcgcggccgc tcatgggcac ctggaacgac atcggcacca gtcagctcaa 15840  
cgggggcgct ttcaattggg ggagcctttg gagcggcatt aaaaactttg gctccacgat 15900  
taaatacctac ggcagcaaag cctggaacag tagtgctggt cagatgctcc gagataaact 15960  
gaaggacacc aacttccaag aaaaagtggc caatggggtg gtgaccggca tccacggcgc 16020  
ggtagatctc gccaaaccaag cgggtgcagaa agagattgac aggcgttttg aaagctcgcg 16080  
ggtgccgccc cagagagggg atgaggtgga ggtcgaggaa gtagaagtag aggaaaagct 16140  
gcccccgctg gagaaaagttc ccggtgcgcc tccgagaccg cagaagcggc ccaggccaga 16200  
actagaagag actctggtga cggagagcaa ggagcctccc tcgtacgagc aagccttgaa 16260  
agagggcgcc tctccaccct cctacccgat gactaagccg atcgcacca tggctcgacc 16320  
ggtgtacggc aaggattaca agcccgtcac gctagagctg cccccaccgc cccccacgcg 16380  
cccgaccgtc cccccctgc cgactccgtc ggcgcccgcg gcgggaccgc tgtccgcacc 16440  
atccgctgtg cctctgccag ccgcccgtcc agtgggccgtg gccactgcc aaaaacccag 16500  
aggccagaga ggagccaact ggcaaagcac gctgaacagc atcgtgggccc tgggagtgaa 16560  
aagcctgaaa cgccgccgtt gctattatta aaaaagtgtg gctaaaaagt ctcccgttgt 16620  
atacgctcc tatgttaccg ccagagacga gtgactgtcg ccgcgagcgc cgctttcaag 16680  
atggccaccc catcgatgat gccgcagtgg tcttacatgc acatcgccgg ccaggacgcc 16740  
tcggagtacc tgagtcggc cctcgtgcag tttgcccgcg ccaccgacac ctacttcagc 16800  
ttgggaaaca agtttagaaa ccccaccgtg gccccaccc acgatgtgac cacggaccgc 16860  
tcgcagaggc tgacctgcg ctttgtgccc gtagaccggg aggacaccgc gtactcttac 16920  
aaagtgcgct acacgttggc cgtaggggac aaccgagtg tggacatggc cagcacctac 16980  
tttgacatcc ggggggtgct ggatcggggt cccagcttca agccctattc cggcaccgct 17040  
tacaactccc tggcccccaa gggagctccc aaccctcgg aatggacgga cacttccgac 17100  
aacaactta aagcatatgc tcaggctccc taccagagtc aaggacttac aaaggatggt 17160  
attcaggttg ggctagtgtg gacagagtca ggacaaacac cccaatatgc aaacaaagt 17220  
taccaacccg agccacaaat tggggaaaac caatggaatt tagaacaaga agataaagcg 17280  
gcgggaagag tcctaaagaa agatacccct atgtttccct gctatgggtc atatgccagg 17340  
cccacaaacg aacaaggagg gcaggcaaaa aaccaagaag tagatttaca gttttttgcc 17400  
actccgggcg acaccagaa cacggctaaa gtgggtacttt atgctgaaaa tgtcaacctg 17460  
gaaactccag atactcactt agtgtttaaa cccgatgacg acagcaccag ttcaaaactt 17520  
cttcttgggc agcaggctgc acctaacaga cccaactaca taggttttag agataatatt 17580  
attggtttta tgtactacaa tagcactgga aacatgggcg tgctggccgg acaggcttct 17640  
caattgaatg ccgtagtcga cttgcaggac agaaacaccg agttgtccta ccagctgatg 17700  
ctggacgcac tgggggatcg cagccgatat ttttcaatgt ggaatcaggc agtagacagc 17760  
tatgaccag acgttagaat tatagaaaac cacggagtgg aagacgaact gccaaactat 17820

tgttttcctc tgggaggaat ggtggtgact gacaattaca actctgtgac gcctcaaaat 17880  
ggaggcagtg gaaatacatg gcaggcagac aatactacat ttagtcaaag aggagcgag 17940  
attggctccg gaaacatggt tgccttgga attaacctac aggccaacct ctggcgcggc 18000  
ttcttgatt ccaatatggg gttgtatctt ccagactctc tgaaaatcac ccccgacaac 18060  
atcacgctgc cagaaaacaa aaacacttat cagtacatga acggtcgcgt aacgccaccc 18120  
gggctcatag acacctatgt aaacgtgggc gcgcgctggt ccccgatgt catggacagc 18180  
attaaccct tcaaccacca ccgtaacgcg ggcttgcgt accgctccat gctcttgggc 18240  
aacggcgtt atgtgccttt tcacattcag gtgccccaaa aattctttgc cattaataaac 18300  
ctgctgcttc tccccggttc ctatacctat gagtggaact tccgcaagga tgtcaacatg 18360  
atcctgcaga gctcgtggg taatgacctg cgagtggacg gggccagcat acgctttgac 18420  
agcattaacc tgtatgcaa ctttttccc atggcccaca acacggctc taccctggaa 18480  
gccatgctgc gcaacgacac caatgaccag tccttcaacg actacctgtg cgcggtaac 18540  
atgctgtacc ccatccccgc caacgccacc agcgtgccca tttctattcc ttctcggaac 18600  
tgggctgcct tcaggggctg gagttttact cgctcaaaa ccaaggagac tccctcgctg 18660  
ggctccggtt ttgacccta ctttgtttac tccggctcca ttccctacct agatggcacc 18720  
ttttacctca accacacttt caaaaagggtg tctattatgt ttgactctc ggtagctgg 18780  
cccggcaacg accgcctgct aacgccaac gagttcgaaa ttaagcgttc cgtggacggt 18840  
gaaggggtaca acgtggccca gagcaacatg accaaggact ggtttctaata tcaaatgctc 18900  
agtcactata atatagggtta ccagggttc tatgtgcccg agaactacaa ggaccgcatg 18960  
tactccttct tccgcaactt ccaaccaatg agccggcagg tggtagatac cgtgacttat 19020  
acagactaca aagatgtcaa gctcccctac caacacaaca actcagggtt cgtgggctac 19080  
atgggaccca ccatgcgaga gggacaggcc taccggcca actatcccta cccctgatc 19140  
ggagagactg ccgtaccag cctcacgcag aaaaagttcc tctgcgaccg ggtgatgtgg 19200  
aggataccct tctctagcaa ctttatgtcg atgggtccc tcaccgacct ggggcagaac 19260  
atgctgtacg ccaactccgc tcacgccttg gacatgactt ttgaggtgga tcccatggat 19320  
gagcccacgc ttctctatgt tctgtttgaa gtcttcgacg tgggtgcgcat ccaccagccg 19380  
caccgcggcg tcatcgaggc cgtctacctg cgcacacctt tctctgcccg taacgccacc 19440  
acctaaagaa gctgatgggt tccagcgaac aggagttgca ggccattgtt cgcgacctgg 19500  
gctgcgggcc ctgctttttg ggcaccttcg acaagcgttt tccggattc atgtcccccc 19560  
acaagccggc ctgcgccatc gttaacacgg cggacggga gacagggggg gtgactggc 19620  
tcgccttcgc ctggaacccg cgcaaccgca cctgctacct gttcgacctt tttggtttct 19680  
ccgacgaaag gctgaagcag atctaccaat tcgagtacga ggggtcctc aagcgacgcg 19740  
ctctggcctc cagcccgc cactgcgtca ccctggaaaa gtccaccag acggtccagg 19800  
ggcccctctc ggccgcctgc gggcttttct gttgcatgtt tttgcacgcc ttcgtgcact 19860

ggcctcacac ccccatggag cgcaacccca ccatggatct gctcaccgga gtgccaaca 19920  
gcatgcttca cagtccccag gtcgccccca cctgcgctcg caatcaggac cacctgtatc 19980  
gctttctggg gaaacactct gcctatttcc gccgccaccg gcagcgcatac gaacaggcca 20040  
cggccttcga aagcatgagc caaagagtgt aatcaataaa aaccgttttt atttgacatg 20100  
atacgcgctt ctggcgtttt tattaaaaat cgaagggttc gaggggagggg tcctcgtgcc 20160  
cgctggggag ggacacgttg cggtactgga atcgggcgct ccaacgaaac tcggggatca 20220  
ccagccgcgg cagggccacg tcttccatgt tctgcttcca aaactgtcgc accagctgca 20280  
gggctcccat cacgtcgggc gctgagatct tgaagtcgca gttagggccg gagccccgc 20340  
ggctgttgcg gaacacgggg ttggcacact ggaacaccaa cacgtggggg ttgtggatac 20400  
tagccagggc cgtcgggtcg gtcacctccg atgcatccag atcctcggca ttgctcaggg 20460  
cgaacggggg cagcttgac atctgccgc cgtatcgggg taccaggtcg cgcttggtga 20520  
ggcagtcgca gcgcagagg atgaggatgc gacgtgccc gcgttgcatg atggggtaac 20580  
tcgccgccag gaactcctct atctgacgga aggccatctg ggccttgacg ccctcgggtga 20640  
aaaatagccc acaggacttg ctggaaaaca cgttattgcc acagttgatg tcttccgcgc 20700  
agcagcgcg atcttcgttc ttcagctgaa ccacgttgcg accccagcgg ttctgaacca 20760  
ccttggtttt cgtggggtgc tccttcagcg cccgctgtcc gttctcgtg gtcacatcca 20820  
tttccaccac gtgctccttg cagaccatct cactccgtg gaaacagaac agaatgccct 20880  
cctgttggtt attgcatgac tccacacgg cgcacccggt ggactcccag ctcttggtgtt 20940  
tcacccccgc gtaggcttcc atgtaagcca ttagaaatct gccatcagc tcagtgaagg 21000  
tcttctggtt ggtgaagggt agcggcaggc cgcggtgttc ctggttcaac caagtttgac 21060  
agatcttgcg gtacacggct ccctggctcg gcagaaactt aaaagtcgtt ctgctctcgt 21120  
tgtccacgtg gaacttctcc atcaacatcg tcatgacttc catgcccttc tcccaggcag 21180  
tcaccagcgg cgcgctctcg gggttcttca ccaacacggc ggtggagggg ccctcggcgg 21240  
ccccgacgtc cttcatggac attttttgaa actccacggt gccgtccgcg cggcgctactc 21300  
tgcgcatcgg agggtagctg aagcccacct ccatgacggt gctttcggcc tcgctgtcgg 21360  
agacgatctc cggggagggg ggcggaacgg ggcgagactt gcgagccttc ttcttgagg 21420  
ggagcggagg cacctcctgc tcgcgctcgg gactcatctc ccgcaagtag ggggtgatgg 21480  
agcttccttg ttggttctga cggttggcca ttgtatccta ggcagaaaga catggagctt 21540  
atgcgcgagg aaactttaac cgccccgtcc cccgtcagcg acgaagaggt catcgtcgaa 21600  
caggacccgg gctacgttac gccgcccag gatctggagg ggcccttaga cgaccggcgc 21660  
gacgctagtg agcggcagga aaatgagaaa gaggaggagg agggctgcta cctcctggaa 21720  
ggcgacgttt tgctaaagca tttcgccagg cagagcacca tactcaagga ggccttgcaa 21780  
gaccgtccg aggtgccctt ggacgtcgcc gcgctctccc aggcctacga ggcgaaacctt 21840  
ttctcggccc gagtgccctc gaagagacag cccaacggca cctgcgagcc caaccgcga 21900  
ctcaacttct acccgtgtt cgccgtgccc gaggcgtggt ccacctacca catctttttc 21960

aaaaaccagc gcattcccct ttcctgccgg gccaaaccgca ccgcggccga taggaagcta 22020  
acactcagaa acggagtcag catacctgat atcacgtcac tggaggaagt gcctaagatc 22080  
ttcgagggtc tgggtcgaga tgagaagcgg gcggcgaacg ctctgcagaa agaacagaaa 22140  
gagagtcaga acgtgctggt ggagctggag ggggacaacg cgcgtctgac cgtcctcaaa 22200  
cgttgcatag aagtttccca cttcgcctac ccggccctca acctgccgcc caaagttatg 22260  
aaatcgggtca tggaccagct actcatcaag agagctgagc ccctgaatcc cgaccaccct 22320  
gaggcggaaa actcagagga cggaaagccc gtcgtcagcg acgaggagct cgagcgggtg 22380  
ctggaaacca gggaccccca gcagttgcaa gagaggcgca agatgatgat ggcggccgtg 22440  
ctggtcacgg tggagctaga atgcctgcaa cggtttttca gcgacgtgga gacgctacgc 22500  
aaaatcgggg agtccctgca ctacaccttc cgccagggt acgttcgcca ggcctgcaaa 22560  
atctccaacg tagagctcag caacctgggt tcctacatgg gcatcctcca cgagaaccgg 22620  
ctggggcaga gcgtgctgca ctgcaccttg caaggcgagg cggaaggga ctacgtccga 22680  
gactgcgtct acctcttctt caccctcacc tggcagaccg ccatgggcgt gtggcagcag 22740  
tgcttgaag agagaaacct caaagagctg gacaaactcc tctgccgcca gcggcgggcc 22800  
ctctggaccg gcttcagcga gcgcacgggt gcctgcgccc tggcagacat cattttccca 22860  
gaacgcctga tgaaaacctt gcagaacggc ctgccggatt tcatcagtca gagcatcttg 22920  
caaaacttcc gtccttcgt cctggagcgc tccgggatct tgcccgccat gagctgcgcg 22980  
ctgccttctg actttgtccc ctttctctac cgcgagtgcc ctccccact gtggagccac 23040  
tgctacctt tccaactggc caactttctg gcctaccact ccgacctcat ggaagacgtg 23100  
agcggagagg ggctgctcga gtgccactgc cgctgcaacc tctgcacccc ccacagatcg 23160  
ctggcctgca acaccgagct gtcagcgaa acccagggtca taggtacctt cgagatccag 23220  
gggccccagc agcaagaggg tgcttccggc ttgaagctca ctccggcgct gtggacctcg 23280  
gcttacttac gcaaatttgt agccgaggac taccacgccc acaaaattca gttttacgaa 23340  
gaccaatctc gaccaccgaa agccccctc acggcctgcg tcatcaccca gagcaaaatc 23400  
ctggcccaat tgcaatccat caaccaagcg cgccgagatt tccttttgaa aaagggtcgg 23460  
ggggtgtacc tggaccccca gaccggcgag gaactcaacc cgtccacact ttccgtcgaa 23520  
gcagcccccc cgagacatgc caccgaaggg aaccgccaag cagctgatcg ctccggcagag 23580  
agcgaagaag caagagctgc tccagcagca ggtggaggac gaggaagagc tgtgggacag 23640  
ccaggcagag gaggtgtcag aggacgagga ggagatggaa agctgggaca gcctagacga 23700  
ggaggacgag ctttcagagg aagaggcgac cgaagaaaaa ccacctgcat ccagcgcgcc 23760  
ttctctgagc cgacagccga agccccggcc cccgacgccc ccggccggct cactcaaagc 23820  
cagccgtagg tgggacgcca ccggatctcc agcggcagcg gcaacggcag cgggtaaggc 23880  
caaacgcgag cggcgggggt attgtcctg gcggaccac aaaagcagta tcgtgaactg 23940  
cttgcaacac tgcgggggaa acatctcctt tgcccgcgc tacctcctt tccatcacgg 24000

tgtggccttc cctcgcaacg ttctctatta ttaccgtcat ctctacagcc cctacgaaac 24060  
gctcggagaa aaaagctaag gcctcctctg ccgcgaggaa aaactccgcc gccgctgccg 24120  
ccaaggatcc gccggccacc gaggagctga gaaagcgcat ctttcccact ctgtatgcta 24180  
tctttcagca aagccgcggg cagcaccctc agcgcgaaact gaaaataaaa aaccgctcct 24240  
tccgctcact caccgcgagc tgtctgtacc acaagagaga agaccagctg cagcgcaccc 24300  
tggacgacgc cgaagcactg ttacgcaaact actgctcagc gtctcttaaa gactaaaaga 24360  
cccgcgcttt ttccccctcg ggcgccaaaa ccacggtcat cgccagcatg agcaaggaga 24420  
ttcccacccc ttacatgttg agctatcagc ccagatggg cctggccgcg ggggcccgcc 24480  
aggactactc cagcaaaatg aactgggtca gcgccggccc ccacatgatc tcacgagtta 24540  
acggcatccg agcccaccga aaccagatcc tcttagaaca ggcggcaatc accgccacac 24600  
cccggcgcca actcaaccgc ccagttggc ccgccgccc ggtgtatcag gaaactcccc 24660  
gcccgaccac agtcctcctg ccacgcgacg cggaggccga agtcctcatg actaactctg 24720  
gggtacaatt agcgggcggg tccaggtacg ccaggtacag aggtcggggc gctccttact 24780  
ctcccgggag tataaagagg gtgatcattc gaggccgagg tatccagctc aacgacgagg 24840  
cgggtgagctc ctcaaccggt ctacagcctg acggagtctt ccagctcgga ggagcggggc 24900  
gctcttcctt caccactcgc caggcctacc tgaccctgca gagctcttcc tcgcagccgc 24960  
gctccggggg aatcggcact ctccagttcg tggaagagtt cgtcccctcc gtctacttca 25020  
acccgttttc cggctcacct ggacgctacc cggacgcctt cattcccaac tttgacgcag 25080  
tgagtgaatc cgtggacggc tacgactgat gacagatggt gcggccgtga gagctcggct 25140  
gcgacatctg catcactgcc gccagcctcg ctgctacgct cgggaggcga tcgtgttcag 25200  
ctactttgag ctgccggacg agcacctca gggaccggct cacgggttga aactcgagat 25260  
tgagaacgcg cttgagtctc acctcatcga cgccttcacc gccgggcctc tcctggtaga 25320  
aaccgaacgc gggatcacta ccatcacctt gttctgcacg tgccccacgc ccggattaca 25380  
tgaagatctg tgttgtatc tttgcgctca gtttaataaa aactgaactt tttgccgtac 25440  
cttcaacgcc acgcgttggt tctccttgty aaaaaacccc aggagtcctt aacttacaca 25500  
tagcaaaacc cttgtatttt accatagaaa aacaactagc ctttcaatt ggaaaaggg 25560  
taacaatttc tgctacagga cagttggaag gcacagcaag cgtacaggac agcgctacac 25620  
caccctacg tggattttcc cttttaagc tgacagacaa cggtttaaca ttaagctatt 25680  
cagatcccct gcgtgtggtg ggtgaccaac ttacgtttaa ttttacttct ccactacgtt 25740  
acgaaaatgg cagtcttaca ttcaactaca cttctcccat gacactaata aacaacagtc 25800  
ttgtatttaa cgtcaatacc tccaaaggcc tcagtagtga caacggcaca ctcgctgtaa 25860  
atgttactcc agattttaga tttacagct ctggtgcctt aacttttggc atacaaagtc 25920  
tatggacttt tccaaccaa actcctaact gtaccgtgtt taccgaaagt gactccctgc 25980  
tgagtctttg cttgactaaa tgcggagctc acgtacttgg aagcgtgagt ttaagcggag 26040  
tggcaggaac catgctaaaa atgaccaca cttctgttac cgttcagttt tcgtttgatg 26100

acagtggtaa actaatattc tctccacttg cgaacaacac ttgggggtgtt cgacaaagcg 26160  
 agagtccggt gcccaacca tctttcaacg ctctcacgtt tatgccaaac agtaccattt 26220  
 attctagagg agcaagtaac gaacctcaaa acaattatta tgtccagacg tatcttagag 26280  
 gcaacgtgcg aaagccaatt ctactaactg ttacctacaa ctgagttaat tcaggatatt 26340  
 ccttaacttt taaatgggat gctgtcgcca atgaaaaatt tgccactcct acatcttcgt 26400  
 tttgctatgt tgcagagcaa taaaaccctg ttaccccacc gtctcgtttt tttcagatga 26460  
 aacgagcgag agttgatgaa gacttcaacc cagtgtaccc ttatgacccc ccatacgctc 26520  
 ccgtcatgcc cttcattact ccgcctttta cctcctcgga tgggttgag gaaaaaccac 26580  
 ttggagtgtt aagtttaaac tacagggatc ccattactac acaaaatggg tctctcacgt 26640  
 taaaactagg aaacggcctc actctaaaca accagggaca gttaacatca actgctggcg 26700  
 aagtggagcc tccgctcact aatgctaaca acaaaacttg actagcctat agcgaaccat 26760  
 tagcagtaaa aagcaaccgc ctaactctat cacacaccgc tccccttgct atcgctaata 26820  
 attctttagc gttgcaagtt tcagagccta tttttgtaaa tgacgatgac aagctagccc 26880  
 tgcagacagc cgccccctt gtaaccaacg ctggcaccct tcgcttacag agcgctgccc 26940  
 ctttaggatt ggttgaaaat actcttaaac tgctgttttc taaacccttg tatttgcaaa 27000  
 atgattttct tgcattagcc attgaacgcc ccctggctgt agcagccgca ggtactctga 27060  
 ccctacaact tactcctcca ttaaagacta acgatgacgg gctaactacta tccacagtcg 27120  
 agccattaac tgtaaaaaac ggaaacctag gcttgcaaat atcgcgccct ttagttgttc 27180  
 aaaacaacgg cttttcgctt gctattaccc ccccgctgag tttgtttaac agcgaccccg 27240  
 ttcttggttt gggcttact tttcccctag ctgtcacaaa caacctcctc tccttaaaaa 27300  
 tgggagacgg agttaaactt acctataata aactaacagc caatttgggt agggatttac 27360  
 aatttgaaaa cgggtgcgatt gccgtaacgc ttactgccga attacctttg caataacta 27420  
 acaaaacttca actgaatatt ggagctggcc ttcgttacaa tggagccagc agaaaaactag 27480  
 atgtaaacat taacccaaat aaaggcttaa cttgggacaa cgatgcagtt attcccaaac 27540  
 taggatcggg cttacaattt gaccctaag gcaacatcgc tggtatccct gaaaccgtga 27600  
 agccgcaaac gttatggagc actgcagatc cctcgcttaa ctgctcagtg taccaggact 27660  
 tggatgccag gctgtggctc gctcttgta aaagtggcga catggtgcat ggaagcattg 27720  
 ccctaaaagc ctaaaaaggg acgttgctaa atcctacagc cagctacatt tccattgtga 27780  
 tatattttta cagcaacgga gtcaggcgta ccaactatcc aacgtttgac aacgaaggca 27840  
 ccttagctaa cagcgccact tggggatacc gacaggggca atctgctaac actaatgtga 27900  
 ccaatgccac tgaatttatg ccagctcaa gcaggtagcc cgtgaataaa ggagacaaca 27960  
 ttcaaaatca atctttttca tacacctgta ttaaaggaga ttttgctatg cctgtcccgt 28020  
 tccgtgtaac atataatcac gccctggaag ggtattccct taagtccacc tggcgcggtg 28080  
 tagccaatca ggcctttgat attccttgct gttcattttc atacatcaca gaataaaaaa 28140

ccactttttc attttaattt ctttttattt tacacgaaca gtgagacttc ctccaccctt 28200  
 ccatttgaca gcatacacca gcctctcccc cttcatagca gtaaaactgtt gtgaatcagt 28260  
 ccggtatttg ggagttaaaa tccaaacagt ctcttttggtg atgaaacgtc gatcagtaat 28320  
 ggacacaaat ccctgggaca ggttttccaa cgtttcggtg aaaaactgca caccgcccta 28380  
 caaaacaaac aggttcaggc tctccacggg ttatctcccc gatcaaaactc agacagggta 28440  
 aagggtgcggt ggtgttccac taaaccacgc aggtggcgct gtctgaacct ctcggtgcga 28500  
 ctctgtgag gctggtaga agtttagattg tccagtagcc tcacagcatg tatcatcagt 28560  
 ctacgagtgc gtctggcgca gcagcgcac tgaatctcac tgagattccg gcaagaatcg 28620  
 cacaccatca caatcagggtt gttcatgac ccatagctga acacgctcca gccaaagctc 28680  
 attcgtcca acagcgccac cgcgtgtccg tccaacctta ctttaacata aatcagggtgt 28740  
 ctgccgcgta caaacatgct acccacatac agaacttccc ggggcaggcc cctgttcacc 28800  
 acctgtctgt accagggaaa cctcacattt atcagggagc catagatggc cattttaaac 28860  
 caattagcta ataccgcccc accagctcta cactgaagag aaccgggaga gttacaatga 28920  
 cagtgaataa tccatctctc ataaccctg atggtctgat gaaaatctag atctaactg 28980  
 gcacaacaaa tacacacttt catatacatt ttcataacat gtttttccca ggccgttaaa 29040  
 atacaatccc aatacacggg cactcctgc agtacaataa agctaataca agatggtata 29100  
 ctctcacct cactgacact gtgcatgttc atattttcac attctaagta ccgagagttc 29160  
 tcctctacag cagcactgct gcggtcctca caagggtggtg gctggtgatg attgtagggg 29220  
 gccagtctgc agcgataccg tctgtcgcgt tgcacgtag accaggaacc gacgcacctc 29280  
 ctctgacttg tggtagcaga accacgtccg ctgccagcac gtctccacgt aacgccggtc 29340  
 cctgcgtcgc tcacgtccc tcctcaatgc aaagtgaac cactcttgta atccacacag 29400  
 atccctctcg gcctccgggg tgatgcacac ctcaaacta cagatgtctc ggtacagttc 29460  
 caaacacgta gtgagggcga gttccaacca agacagacag cctgatctat cccgacacac 29520  
 tggagggtgga ggaagacacg gaagaggcat gttattccaa gcgattcacc aacgggtcga 29580  
 aatgaagatc ccgaagatga caacggctgc ctccggagcc ctgatggaat ttaacagcca 29640  
 gatcaaacgt tatgcgattc tccaagctat cgatcgccgc ttccaaaaga gcctggaccc 29700  
 gcacttccac aaacaccagc aaagcaaaag cactattatc aaactcttca atcatcaagc 29760  
 tgcaggactg tacaatgcct aagtaatttt cgtttctcca ctgcggaatg atgtcgcggc 29820  
 agatagtctg aaggttcatc ccgtgcaggg taaaaagctc cgaaagggcg ccctctacag 29880  
 ccatgcgtag acacaccatc atgactgcaa gatatcgggc tcctgagaca cctgcagcag 29940  
 atttaacaga tcaaggctcag gttgctctcc gcgatcacga atctccatcc gcaaggctcat 30000  
 ttgcaaaaaa ttaaataaat ctatgccgac tagatctgtc aactccgcat taggaaccaa 30060  
 atcagggtgtg gctacgcagc aaaaaagttc cagggatggt gccaaactca ctagaaccgc 30120  
 tcccagagtaa caaaactgat gaatgggagt aacacagtgt aaaatgtgca accaaaaatc 30180  
 actaagggtgc tcctttaaaa agtccagtag ttctatatc agtccgtgca agtactgaag 30240

```

caactgtgcg ggaatatgca caacaaaaaa aatagggcgg ctgagataca tgttgacctt 30300
aaataaaaaag aatcattaaa ctaagaagc ttggcgaacg gtgggataaa tgacacgctc 30360
cagcagcaga caggcaaccg gctgtccccg ggaaccgcgg taaaattcat ccgaatgatt 30420
aaaaagaaca acagaaactt cccaccatgt actcggttgg atctcctgag cacacagcaa 30480
tccccccctc acattcatgt ccgccacaga aaaaaaacgt cccagatacc cagcggggat 30540
atccaacgac agctgcaaag acagcaaaac aatccctctg ggagcgatca caaaatcctc 30600
cggtgaaaaa agcacatata tattagaata accctgttgc tggggcaaaa aggcccggcg 30660
tcccagcaaa tgcacataaa tatgttcacg agccattgcc ccgtcttacc gcgtaatcag 30720
ccacgaaaaa atcgagctaa aattcaccca acagcctata gctatatata cactccgccc 30780
aatgacgcta ataccgcacc acccacgacc aaagttcacc cacaccaca aaaccgcga 30840
aaatccagcg ccgtcagcac ttccgcaatt tcagtctcac aacgtcactt ccgcgcgcct 30900
tttcacattc ccacacacac ccgcgccctt cgcgccgcc tcgcgccacc ccgcgtcacc 30960
gcacgtcacc ccggccccgc ctgcgtcctc cccgctcatt atcatattgg cacgtttcca 31020
gaataaggta tattattgat gatg                                     31044

```

```

<210> 6
<211> 34115
<212> DNA
<213> simian adenovirus SV-39

```

```

<400> 6
catcatcaat ataacaccgc aagatggcga ccgagttaac atgcaaata ggtgggcgga 60
gttacgcgac ctttgtcttg ggaacgcgga agtgggcgcg gcgggtttcg gggaggagcg 120
cggggcgggg cgggcgtgac gcgcggcggt gacgcgccgg ggaccggaa attgagtagt 180
ttttattcat tttgcaagt tttctgtaca ttttggcgcg aaaactgaaa cgaggaagtg 240
aaaagtgaaa aatgccgagg tagtcaccgg gtggagatct gacctttgcc gtgtggagtt 300
taccgctga cgtgtgggtt tcggtctcta ttttttact gtggttttcc gggtagcgtc 360
aaagggtccc attttatgac tccacgtcag ctgatcgcta gggattttaa tgcgcctcag 420
accgtcaaga ggccactctt gagtgcgggc gagaagagtt ttctcctccg cgttccgcca 480
actgtgaaaa aatgaggaac ttcttgctat ctccggggct gccagcgacc gtagccgccc 540
agctgttgga ggacattgtt accggagctc tgggagacga tcctcaggtg atttctcact 600
tttgtgaaga ttttagtctt catgatctct atgatattga tccgggtgtt gaggggcaag 660
aggatgaatg gctggagtct gtggatgggt tttttccgga cgctatgctg ctagaggctg 720
atgtgccacc acctcacaac tctcactg agcccgagtc agctgctatt cctgaattgt 780
catcagggtga acttgacttg gcttggttac agactatgcc tccggagtcg gatgaggagg 840
acagcgggat cagcgatccc acggctttta tggctcttaa ggcgattgct atactaaaag 900
aagatgatga tggcgatgat ggatttcgac tggacgctcc ggcggtgccg gggagagact 960
gtaagtcctg tgaataccac cgggatcgta ccggagaccc gtctatgttg tgttctctgt 1020

```

gttatctccg tcttaacgct gcttttgtct acagtaagtg ttttgtgctt ttttaccctg 1080  
tggctttgtt gagtttattt ttttctgtgt ctcatagggg gttgtttatt ataggctctg 1140  
tttcagatgt ggaggaacct gatagtacta ctggaaatga ggaggaaaag ccctccccgc 1200  
cgaaactaac tcagcgctgc agacctaaata ttttgagacc ctcgggccag cgtgtgtcat 1260  
cccggaaaacg tgctgctgtt aattgcatag aagatttatt ggaagagccc actgaacctt 1320  
tggacttgtc cttaaagcga ccccgccgc agtagggcgc ggtgccagtt ttttctctct 1380  
agcttccggg tgactcagtg caataaaaat tttcttgga acaggtgtat gtgtttactt 1440  
tacgggcggg aagggttag gggagtataa agctggagg gaaaaatctg aggctgtcag 1500  
atcgagttag aagttccatg gacttgtacg agagcctaga gaatctaagt tctttgcgac 1560  
gtttgtgga ggaggcctcc gacagaacct cttacatttg gaggtttctg ttcggttccc 1620  
ctctgagtcg ctttttgac cgggtgaagc gagagcacct gacggaattt gatgggcttt 1680  
tagagcagct gcctggactg tttgattctt tgaatctcg ccaccggacg ctgctagagg 1740  
agaggctttt tccacaattg gacttttctt ctccaggccg tctgtgttca gcgcttgctt 1800  
ttgctgtaca tctgttgga agatggaacg agcagacgca gctcagcccg ggttacactc 1860  
tggacttctt gacgctatgc ctatggaagt tcggaatcag gggggggagg aagctgtacg 1920  
ggcgcttggg ggagaggcat ccgtctctgc gccagcagcg tctgcaagct caagtgtctg 1980  
tgaggcgga ggatctgga gccatttcgg aggaggagag cggcatggaa gagaagaatc 2040  
cgagagcggg gctggaccct ccggcggagg agtagggggg ataccggacc cttttcctga 2100  
gttggctttg ggggcgggtg ggggcgcttc tgtggtacgt gaggtgaag aggggcgcca 2160  
acgcggtcag aagagggagc attttgagtc ctgcactttc ttggctgatg taaccgtggc 2220  
cctgatggcg aaaaacaggc tggagggtgt gtggtacccg gaagtatggg aggactttga 2280  
gaagggggac ttgcacctgc tggaaaaata taactttgag caggtgaaa catactggat 2340  
gaaccggat gaggactgg aggtggtttt gaaccgatac ggcaaggtag ctctgctcc 2400  
cgactgtcgc taccaggttc gcgacaaggt ggtcctgcga cgcaacgtgt acctgttggg 2460  
caacggcgcc accgtggaga tgggtggacc cagaaggggt ggttttgtgg ccaatatgca 2520  
agaaatgtgc cctggggtgg tgggcttgtc tggggtgact tttcatagtg tgaggtttag 2580  
cggtagcaat tttgggggtg tggttattac cgcgaaact cctgtggtcc tgcataattg 2640  
ctactttttt ggcttcagca acacctgtgt ggaaatgagg gtgggaggca aagtgcgcgg 2700  
gtgttccttt tacgcttgct ggaaggggt ggtgagccag ggtaaggcta aagtgtctgt 2760  
tcacaagtgt atgttgaga gatgcacctt gggcatttcc agtgagggt tcctccacgc 2820  
cagcgacaac gtggcttctg acaacgctg cgcctttctt atcaaggag ggggtcgcac 2880  
ctgtcacaac atgatatgc gccctgggga tgtccccca aagccttacc agatggttac 2940  
ctgcacagat ggcaagggtc gcatgtcaa gcctgtgcac attgtgggac accggcgcca 3000  
ccgctggcca gagtttgaac acaatgtgat gaccgcgtgt agcttgtacc tgggaggcag 3060

gcgaggagtt ttcttgccca gacagtgtaa cctggcccac tgcaacgtga tcatggaaca 3120  
atccgccgct acccaggttt gctttggagg aatatttgat ataagcatgg tgggtgataa 3180  
gacctgctgc tacgacgact gtcgggctcg tactcgaacc tgcgactgcg gagcctctca 3240  
cctgtgtaac ctgactgtga tggggatggt gactgaggag gtgcgactgg accactgtca 3300  
gcactcttgc ctgcgggagg agttttcttc ctcggacgag gaggactagg taggtggttg 3360  
gggcgtggcc agcgagaggg tgggctataa aggggaggtg tcggctgacg ctgtcttctg 3420  
ttttcaggt accatgagcg gatcaagcag ccagaccgcg ctgagcttcg acggggccgt 3480  
gtacagcccc tttctgacgg ggcgcttgcc tgcctgggcc ggagtgcgtc agaattgttac 3540  
cggttcgacc gtggacggac gtcccgtgga tccatctaac gctgcttcta tgcgctacgc 3600  
tactatcagc acatctactc tggacagcgc cgctgccgcc gcagccgcca cctcagccgc 3660  
tctctccgcc gccaatgata tggctattaa cccaagcctt tacagccctg tatccgtgga 3720  
cacctcagcc ctggagcttt accggcgaga tctagctcaa gtggtggacc aactcgcagc 3780  
cgtgagccaa cagttgcagc tgggtgtcgc cagagtggag caactttccc gccctcccca 3840  
gtaaccgcaa aaattcaata aacagaattt aataaacagc acttgagaaa agtttaact 3900  
tgtggtgac ttattctctg gatagctggg gggagggaaac ggcgggaacg gtaagacctg 3960  
gtccatcggt cccggtcgtt gagaacacgg tggatttttt ccaagaccg atagaggtgg 4020  
gtctgaacgt tgagatacat gggcatgagc ccgtctcggg ggtggaggta ggccactgc 4080  
agggcctcgt tttcaggggt ggtgttgtaa atgatccagt cgtaggcccc ccgctgggcg 4140  
tgggtgctgga agatgtcctt cagcagcaag ctgatggcaa cgggaagacc cttggtgtag 4200  
gtgttgacaa agcgggttag ttgggagggg tgcattgagg gactgatgag gtgcattttg 4260  
gcctggatct tgaggttggc tatgttgccg ccagatcgc gcctgggatt catgttatgc 4320  
aagaccacca gcaccagta accggtgcag cgggggaatt tgcgtgcag cttggaagg 4380  
aaagcgtgga agaatttgga gacccctcgg tgcgcgcta ggttttccat gcactcatcc 4440  
atgatgatgg cgatgggccc ccgggaggca gcctgggcaa aaacgttgcg ggggtccgtg 4500  
acatcgtagt tgtgttcctg ggtgagttca tcataggaca ttttgacaaa gcgcgggcag 4560  
aggggtcccag actggggaat gatggttcca tccggtccgg gggcgtagtt gccctcgag 4620  
atttgcattt cccaggtttt gatttcagag ggagggatca tgtcaacctg gggggcgatg 4680  
aaaaaatgg tctctggggc gggggtgatg agctgggtgg aaagcagggt gcgcaagagc 4740  
tgtgacttgc cgcagccggt gggcccgtag atgacagcta tgacgggttg cagggtgtag 4800  
tttagagagc tacaactgcc atcatccttc aaaagcggg ccacactgtt taaaagttct 4860  
ctaactgta agttttcccg cactaagtcc tgcaggagac gtgaccctcc tagggagaga 4920  
agttcaggaa gcgaagcaaa gtttttaagt ggcttgaggc catcggccaa gggcaagttc 4980  
ctgagagttt gactgagcag ttccagccgg tcccagagct cggttacgtg ctctacggca 5040  
tctcgatcca gcagacctc tcgtttcggg ggttggggcg gctctggctg tagggaatga 5100  
ggcgtgggc gtccagctgg gccatggtgc ggtccctcca tgggcgcagg gttctcttca 5160

gggtggtctc ggtcacggtg aatgggtggg ccccgggctg ggcgctggcc aggggtgcgct 5220  
tgaggctgag gcggctggtg gcgaaccgtt gcttttcgtc tccctgcaag tcagccaaat 5280  
agcaacggac catgagctca tagtccaggc tctctgcggc atgtcctttg gcgcgaagct 5340  
tgccttttga aacgtgcccc cagtttgagc agagcaagca ttttagcgcg tagagttttg 5400  
gcgccaagaa cacggattcc ggggaataag catccccacc gcagttggag caaacggttt 5460  
cgcattccac cagccaggtc agctgaggat cttttgggtc aaaaaccaag cggccgccgt 5520  
tttttttgat gcgcttccta cctcgggtct ccatgaggcg gtgcccgcgt tcggtgacga 5580  
agaggctgtc ggtgtctccg tagacggagg tcagggcgcg ctctccagg ggggtcccgc 5640  
ggtcctcggc gtagagaaac tcgcaccact ctgacataaa cgcccggtc caggctagga 5700  
cgaatgaggc gatgtgggaa gggtagcggc cgttatcgat gagggggtcg gttttttcca 5760  
aggtgtgcag gcacatgtcc ccctcgtccg cttccaaaaa tgtgattggc ttgtaggtgt 5820  
aagtcacgtg atcctgtcct tccgcggggg tataaaaggg ggcgtttccc ccctcctcgt 5880  
cactctcttc cggttcgtg tcgccaaagg ccagctgttg gggtagctaa acgcgggtga 5940  
aggcgggcat gacctgtgcg ctgaggttgt cagtttctat atacaggaa gatttgatgg 6000  
cgagcgcccc cgtggagatg cccttgaggc gtcggggcc catttggtca gaaaacacaa 6060  
tctgtcggtt atcaagcttg gtggcaaaag acccgtagag ggcgttgagg agcaacttg 6120  
cgatggagcg ctgggttttg tttttttccc ggtcggcttt ttccttggcc gcgatgttga 6180  
gctggacgta ctccctggcc acgcacttcc agccgggaaa aacggccgtg cgctcgtccg 6240  
gcaccagcct cacgtccat ccgcggttgt gcagggtgat gacgtcgatg ctggtggcca 6300  
cctctccgcg caggggctcg ttggtccagc agaggcgacc gcccttgca gagcagaagg 6360  
ggggcagggg gtcaagcagg cgctcgtccg gggggtcggc gtcgatggta aagatggcgg 6420  
gcagcaggtg tttgtcaaag taatcgatct gatgccggg gcaacgcagg gcggtttccc 6480  
agtcccgcac cgccaaggcg cgctcgtatg gactgagggg ggcgccccag ggcattggat 6540  
gcgtcagggc cgaggcgtag atgccgcaga tgtcatagac gtaaaggggc tcctccagga 6600  
cgccgaggta ggtggggtag cagcgcccc cgcggtatgct ggcccgtag tagtcgtaga 6660  
gctcgtgcga gggggccaga aggtggcggc tgaggtgagc gcgctggggc tttcatctc 6720  
ggaagaggat ctgcctgaag atggcgtggg agttggagga gatggtgggc cgctgaaaaa 6780  
tgttgaagcg ggcgtcggc agaccacgg cctcgccgat aaagtgggc taggactctt 6840  
gcagcttttc caccaggag gcggtgacca gcacgtccag agcgagtag tccagggttt 6900  
cccgcacgat gtcataatgc tcttcctttt tttccttcca gaggtctcgg ttgaagagat 6960  
actcttcgcg gtctttccag tactcttgga gaggaaccc gttttcgtct ccacggtaag 7020  
agcccaacat gtaaaactgg ttgacggcct gatagggaca gcatccctt tccacgggca 7080  
gcgagtaggc cagggcgggc ttgcgcaggg aggtgtgagt cagggcaaag gtgtcgcgga 7140  
ccataacttt taaaaactgg tacttaaagt cccggtcgtc gcacatgcct cgctcccagt 7200

ctgagtagtc tgtgcgcttt ttgtgcttgg ggtaggcag ggagtaggtg acgtcgtaa	7260
agaggatattt gccacatctg ggcataaagt tgcgagagat tctgaagggg ccgggcacct	7320
ccgagcggtt gttgatgact tgggcagcca ggagaatttc gtcgaagccg ttgatgttgt	7380
gccccacgac gtagaactct atgaaacgcg gagcgccgcg cagcaggggg cacttttcaa	7440
gttgctggaa agtaagttcc cgcggtctga cgccgtgttc cgtgcggctc cagtcctcca	7500
ccgggttttcg ctccacaaaa tcctgccaga tgtggtcgac tagcaagagc tgcagtcggt	7560
cgcgaaattc gcggaatttt ctgccgatgg cttgtctctg ggggttcaag caaaaaaagg	7620
tgtctgcgtg gtcgcgccag gcgtcccagc cgagctcgcg agccagattc agggccagca	7680
gcaccagagc cggctcaccg gtgattttca tgacgaggag aaagggcacc agctgttttc	7740
cgaacgcgcc catccaggtg taggtctcca cgtcgtaggt gagaaacaga cgttcggtcc	7800
gcgggtgcga tcccaggggg aaaaacttga tgggtgcga ccattgggag ctctgggcgt	7860
ggatgtgatg gaagtaaaag tcccggcggc gcgtggaaca ttcgtgctgg tttttgtaa	7920
agcggccgca gtggtcgag cgcgagacgg agtgaaggct gtgaatcagg tgaatcttgc	7980
gtcgtgagg gggccccaga gccaaaaagc ggagcgggaa cgaccgcgcg gccacttcgg	8040
cgtccgcagg caagatggat gagggttcca ccgttccccg cccgcggacc gaccagactt	8100
ccgccagctg cggcttcagt tcttgacca gctctcgag cgtttcgtcg ctgggcgaat	8160
cgtgaatacg gaagtgtcg ggtagaggcg ggaggcgggtg gacttccagg aggtgtgtga	8220
gggccggcag gagatgcagg tggtaacttga tttccacgg atgacggctc cgggcgtcca	8280
aggcgaagag atgaccgtgg ggccgcggcg ccaccagcgt tccgcggggg gtctttatcg	8340
gcggcgggga cgggctcccg gcggcagcgg cggctcggga cccgcgggca agtcgggcag	8400
cggcacgtcg gcgtggagct cgggcagggg ctggtgctgc gcgcggagct gactggcaaa	8460
ggctatcacc cggcgattga cgtcctggat ccggcggcgc tgcgtgaaga ccaccggacc	8520
cgtggctctt aacctgaaag agagttcgac agaataatc tcggcatcgt taaccgcggc	8580
ctggcgcagg atttcggcca cgtccccgga gttgtcttga tacgcgattt ctgccatgaa	8640
ctggtcgatt tcctcttcct gcaagtctcc gtgaccggcg cgttcgacgg tggccgcgag	8700
atcgttggag atgcggccca tgagctggga aaaggcattg atgccgacct cgttccacac	8760
tcggctgtac accacctctc cgtgaacgtc gcgggcgcgc atcaccacct gggcgagatt	8820
gagttccacg tggcgggcga aaaccggata gtttcggagg cgctgataca gatagttgag	8880
ggtggtggcg gcgtgctcgg ccacaaaaaa atacatgatc cagcggcgga gggtcagctc	8940
gttgatgtcg ccagcgcct ccaggcgttc catggcctcg taaaagtcca cggcaaagtt	9000
gaaaaattgg ctgttcctgg ccgagaccgt gagctcttct tccaagagcc gaatgagatc	9060
cgccacggtg gccctgactt cgcgttcgaa agccccgggt gcctcctcca cctcttcctc	9120
ctcgacttct tcgaccgctt cgggcacctc ctcttctcg accaccacct caggcggggc	9180
tcggcggcgc cggcggcgga cgggcaggcg gtcgacgaaa cgctcgatca tttccccct	9240
ccgtcgacgc atggtctcgg tgacggcgcg accctgttcg cgaggacgca gggagaaggc	9300

gccgccgccg agcggaggta acagggagat cggggggcgg tcgtggggga gactgacggc 9360  
gctaactatg catctgatca atgtttgctg agtgacctcg ggctcgagcg agctcagcgc 9420  
ttgaaaatcc acgggatcgg aaaaccgttc caggaacgcg tctagccaat cacagtcgca 9480  
aggtaagctg aggaccgtct cgggggcttg tctgttctgt cttcccgcgg tgggtgctgct 9540  
gatgaggtag ttgaagtagg cgctcttgag gcggcggatg gtggacagga gaaccacgtc 9600  
tttgcgccca gcttgctgta tccgcaggcg gtcggccatg cccacactt ctccttgaca 9660  
gcggcggagg tccttgtagt attcttgcat cagcctttcc acgggcacct cgtcttcttc 9720  
ttccgctcgg ccggacgaga gccgcgtcag gccgtacctg cgctgcccct gtggttgagg 9780  
cagggccagg tcggccacga cgcgctcggc cagcacggcc tgctggatgc gggtgagggg 9840  
gtcctgaaag tcgtcgagat ccacaaagcg gtggtacgcg ccagtgttga tgggtgtaggt 9900  
gcagttgctc atgacggacc agtttacggg ctgggtgccg tggccacagg tttccaggta 9960  
gcggagacgc gagtagggcc gcgtctcgaa gatgtagtcg ttgcagggtcc gcagcaggta 10020  
ctggtagccc accagcagat gcggcggcgg ctggcggtag aggggccacc gctgggtggc 10080  
gggggcgttg ggggcgagat cttccaacat gaggcggtga tagccgtaga tgtagcgca 10140  
catccaagtg atgccgctgg ccgtggtgct ggcgcgggcg tagtcgcgaa cgcggttcca 10200  
gatgtttcgc agcggctgga agtactcgat ggtggggcga ctctgccccg tgaggcgggc 10260  
gcagtcggcg atgctctacg gggaaaaaga agggccagtg aacaaccgcc ttccgtagcc 10320  
ggaggagaac gcaagggggg caaagaccac cgaggctcgg gttcgaaacc cgggtggcgg 10380  
cccgaatacg gagggcggtt ttttgctttt ttctcagatg catcccgtgc tcgggcagat 10440  
gcgtccgaac gcgggggtccc agtccccggc ggtgcctgcg gccgtgacgg cggttctac 10500  
ggccacgtcg cgctccacc cgcctaccac ggcccaggcg gcggtggctc tcgcggcgc 10560  
aggggaaccc gaagcagagg cgggtgttga cgtggaggag ggccaggggt tggctcggct 10620  
gggggccctg agtcccagac ggcacccgcg cgtggctctg aagcgcgacg cggcggaggc 10680  
gtacgtgccc cggaagcaatc tgtttcgcga ccgcagcggc gaggaggccg aggagatgcg 10740  
agacttgctg tttcgggcgg ggaggaggtt gcgtcacggg ctggaccggc agagggttct 10800  
gagagaggag gactttgagg cggacgagcg cacgggggtg agtcccgcgc gggctcacgt 10860  
ggcggccgcc aacctggtga gcgcgtacga gcagacggtc aaggaggaga tgaacttcca 10920  
gaagagcttc aatcatcacg tgcgcacgct gattgcgcgc gaagaggtgg ccatcggcct 10980  
catgcatctg tgggattttg tggaggcgta cgttcagaa cccagcagca agccgctgac 11040  
ggctcagctg ttctcatcg tgcaacatag tcgagacaac gaaacgttca gggaggccat 11100  
gctgaacatt gcagagcctg aggggcgctg gctcttgat ctattaaca tcttgacag 11160  
tatcgtagtg caggagcgtc cgctgagcct ggccgacaag gtggctgcca tcaactacag 11220  
catgctgtcg ctgggcaa tttacgccc caagatctac aagtctccgt tcgtcccat 11280  
agacaaggag gtgaagatag acagctttta catgcgcatg gcgctcaagg tgctgactct 11340

aagcgacgac ctgggggtgt accgcaacga ccgcatacac aaggcgggtga gcgccagccg 11400  
ccggcgcgag ctgagcgacc gcgagctttt gcacagcctg catcggggtg tgactggtgc 11460  
cggcagcgcc gaggcgccg agtactttga cgccggagcg gacttgcgct ggagccatc 11520  
ccgacgcgcg ctggaggcgg ctggcgtcgg ggagtacggg gtcgaggacg acgatgaagc 11580  
ggacgacgag ttgggcattg acttgtagcc gtttttcgtt agatatgtcg gcgaacgagc 11640  
cgtctgcggc cgccatggtg acggcgccg gcgcgcccc ggacccggcc acgcgcgcgg 11700  
cgctgcagag tcagccttcc ggagtgcgc ccgcggagca ctggtccgag gccatgcgtc 11760  
gcatcctggc gctgacggcg cgcaaccccg aggccttttcg gcagcagccg caggcaaacc 11820  
ggtttgccggc cattttggaa gcgggtggtgc cctccagacc caacccacc cacgaaaagg 11880  
tgctggccat cgtcaacgcc ctggcggaga ccaaggccat ccgccagac gaggccgggc 11940  
aggtttacaa cgcgctgcta gaaaggggtg gacgtacaa cagctccaac gtgcagacca 12000  
atctggaccg cttggtgacg gacgtgaagg aggccgtagc ccagcgagag cggtttttca 12060  
aggaagccaa tctgggctcg ctggtggccc tcaacgcctt cctgagcacg ctgccggcga 12120  
acgtgccccg cggtcaggag gactacgtga actttctgag cgccctccgc ctgatggtg 12180  
ccgaggtgcc gcagagcgag gtgtaccagt ctggcccaa ctactacttc cagacctccc 12240  
ggcagggcct gcagacggta aacctgacgc aggcctttca gaacctgcag ggcccttggg 12300  
gggtgcgcgc tccgctgggc gaccgcagca cgggtgccag cctgctgacc cccaatgccc 12360  
ggctgctctt gcttctcatt gctccgttca ccgacagcgg ttccatcagc cgcgactctt 12420  
acctgggaca cctgctcacc ctgtaccggg aggccatcgg gcaggcgcg gtggacgagc 12480  
agacgtacca ggaaatcacc agcgtgagcc gcgcgctggg gcaggaggac acgggcagct 12540  
tggaggcgac tctgaacttc ctgctgacca accggcgga gcgcctacct cccagtagc 12600  
cgctgaacgc ggaggaggag cgcacctgc gtttcgtgca gcagagcacc gcgctgtact 12660  
tgatgcggga aggcgcctct ccagcgctt cgctggacat gacggcgcc aacatggagc 12720  
catcgttcta cgccccaac cgtcccttcg tcaaccggct aatggactat ttgcatcggg 12780  
cggcgccct gaacccgga tactttacta acgtcatcct gaacgaccgt tggctgccac 12840  
ctcccggtt ctacacgggg gagttcgacc tccggaggc caacgacggt ttcattgtgg 12900  
acgacgtgga cagcgtgttc ctgcccggca agaaggaggc gggtgactct cagagccacc 12960  
gcgcgagcct cgagacctg ggggcgacc ggccgcgtc tccgctgcct cgcctgccga 13020  
gcgccagcag cgccagcgtg gggcggtga gccgtccgc cctcagcggg gaggaggact 13080  
ggtggaacga tccgctgctc cgtccggccc gcaacaaaaa cttccccaac aacgggtag 13140  
aggatttggg agacaaaatg aaccgttgga agacgtatgc ccaggagcat cgggagtggc 13200  
aggcgaggca acccatgggc cctgttctgc cgccctctcg gcgcccgcgc agggacgaag 13260  
acgccgacga ttcagccgat gacagcagcg tgttgatct gggcgggagc gggaaccct 13320  
ttgccacct gcaacctgc ggcgtgggtc ggcggtggcg ctaggaaaaa aaattattaa 13380  
aagcacttac cagagccatg gtaagaagag caacaagggt gtgtcctgct ttcttcccgg 13440

tagcaaaatg cgtcgggcg tggcagttcc ctccgcgga atggcgtag gcccgcccc 13500  
ttcttacgaa agcgtgatgg cagcggccac cctgcaagcg ccgttgaga atccttacgt 13560  
gccgcccga tacctggagc ctacgggagg gagaaacagc attcgttact cggagctgac 13620  
gccccgttac gacaccaccc gcctgtacct ggtggacaac aagtcagcag atatcgccac 13680  
cttgaactac cagaacgacc acagcaactt tctcacgtcc gtggtgcaga acagcgacta 13740  
cacgcccgcc gaagcgagca cgcagaccat taacttggac gaccgctcgc gctggggcgg 13800  
ggacttgaaa accattctgc aactaacat gccaacgtg aacgagttca tgtttaccaa 13860  
ctcgttcagg gctaaactta tggtagcgca cgaaggccgac aaggaccggg tttatgagtg 13920  
ggtgcagctg acgtgcccgg aggggaactt ttcagagatt atgaccatag acctgatgaa 13980  
caacgccatt atcgaccact acctggcggg agccagacag caggggggtga aagaaagcga 14040  
gatcggcgtc aagtttgaca cgcgaactt tcgtctgggc tgggacccgg agacggggct 14100  
tgtgatgccg ggggtgtaca cgaacgaagc tttccatccc gacgtggtcc tcttgccggg 14160  
ctgcggggtg gactttacct acagccggtt aaacaacctg ctaggcatac gcaagagaat 14220  
gccccctttag gaagggtttc agatcctgta cgaggacctg gagggcggtg acatcccggc 14280  
cctgctggac gtgccggcgt acgaggagag catcgccaac gcaaggaggg cggcgatcag 14340  
gggcgataat ttcgcggcgc agccccaggc ggctccaacc ataaaacccg ttttggaaga 14400  
ctccaaaggg cggagctaca acgtaatagc caacaccaac aacacggctt acaggagctg 14460  
gtatctggct tataactacg gcgaccggga gaaggggggtt agggcctgga ccctgctcac 14520  
cactccggac gtgacgtgcg gttcagagca ggtctactgg tcgctgcctg acatgtacgt 14580  
ggaccctgtg acgtttcgct ccacgcagca agtttagaac taccagtggt tgggagcgga 14640  
gcttatgccg attcacagca agagctttta caacgagcag gccgtctact cacagctcat 14700  
tcgtcagacc accgccctaa cgcacgtttt caaccgcttc cccgagaacc aaatcctagt 14760  
gcgacctcca gcgcccacca tcaccaccgt cagcgagaac gtgcccgtc taaccgatca 14820  
cgggacgtg cctttgcaga acagcatccg cggagttcag cgagttacca tcacggacgc 14880  
ccgtcgtcgg acctgtccct acgtctacaa agccttggga atcgtggccc cgcgctcct 14940  
gtcgagtcgc actttctaga tgtccatcct catctctccc agcaacaata ccggttgggg 15000  
tctgggctg accaaaatgt acggaggcgc caaacgacgg tccccacaac atcccgctgcg 15060  
agtgcgcggg cacttttagag ccccatgggg gtcgcacacg cgcgggcgca ccggccgaac 15120  
caccgtcgac gacgtgatcg atagcgtggg ggccgacgcc cgcaactacc agcccgtcgc 15180  
atccacgggtg gacgaagtca tcgacggcgt ggtggccgac gccagggcct acgcccgcag 15240  
aaagtctcgt ctgcgcccgc gccgttcgct aaagcgcccc acggccgcca tgaaagccgc 15300  
tcgtctctg ctgcgtcgcg cacgtatcgt gggtcgcccgc gccgccagac gcgcagccgc 15360  
caacgcccgc gccggccgag tgcgcccgcg ggccgcccag caggccgccc ccgccatctc 15420  
cagtctatcc gcccccgac gcgggaatgt gtactgggtc agggactcgg ccaccggcgt 15480

gcgagttccc gtgagaaccc gtcctcctcg tccctgaata aaaagttcta agcccaatcg 15540  
 gtgttccggt gtgtgttcag ctggtcatga ccaaacgcaa gtttaaagag gagctgctgc 15600  
 aagcgtggt ccccgaaatc tatgcgccgg cgccggacgt gaaaccgct cgctgaaac 15660  
 gcgtgaagaa gcaggaaaag ctagagacaa aagaggaggc ggtggcggtg ggagacgggg 15720  
 aggtggagtt tgtgcgctcg ttcgcgccgc gtcggcgagt gaattggaag gggcgcaagg 15780  
 tgcaacgggt gctgcgtccc ggcacggtgg tgtctttcac cccgggtgaa aaatccgcct 15840  
 ggaagggcat aaagcgctg tacgatgagg tgtacgggga cgaagacatt ctggagcagg 15900  
 cgctggatag aagcggggag tttgcttacg gcaagagggc gaggacgggc gagatcgcca 15960  
 tcccgctgga cacttccaac cccaccccca gtctgaaacc cgtgacgctg caacagggtg 16020  
 tgccggtgag cgccccctcg cgacgcggca taaaacgcga gggcgggcag ctgcagccca 16080  
 ccatgcagct cctggttccc aagaggcaga aactagagga cgtactggac atgataaaaa 16140  
 tggagcccga cgtgcagccc gatattaaaa tccgtcccat caaagaagtg gcgccgggaa 16200  
 tgggcgtgca gaccgtggac atccagattc ccatgaccag cgccgcacag gcggtagagg 16260  
 ccatgcagac cgacgtgggg atgatgacgg acctgcccgc agctgctgcc gccgtggcca 16320  
 gcgccgcgac gcaaacggaa gccggcatgc agaccgacc gtggacggag gcgcccgctg 16380  
 agccggccag aagacgcgtc agacggacgt acggccccgt ttctggcata atgccggagt 16440  
 acgcgtgca tccttccatc atccccacc cgggtaccg ggggcgcacc taccgtccgc 16500  
 gacgcagcac cactcgccgc cgtcgccgca cggcacgagt cgccaccgcc agagtgcagc 16560  
 gcgtaacgac acgtcgcggc gcccgcttga ccctgcccgt ggtgcgctac catcccagca 16620  
 ttctttaaaa aaccgctcct acgttgacga tgggcaagct tacttgctga ctccgtatgg 16680  
 ccgtgcccgg ctaccgagga agatcccgc gacgacggac tttgggaggc agcggtttgc 16740  
 gccgccgtcg ggcggttcac cggcgccctca agggaggcat tctgccggcc ctgatcccca 16800  
 taatcgccgc agccatcggg gccattcccg gaatcgccag cgtagcggtg caggctagcc 16860  
 agcgccactg attttactaa ccctgtcggg cgcgccgtct ctttcggcag actcaacgcc 16920  
 cagcatggaa gacatcaatt tctcctctct ggccccgcgg cacggcacgc ggccgtatat 16980  
 ggggacgtgg agcgagatcg gcacgaacca gatgaacggg ggcgctttca attggagcgg 17040  
 tgtgtggagc ggcttgaaaa atttcggttc cactctgaaa acttacggca accgggtgtg 17100  
 gaactccagc acggggcaga tgctgagggg caagctaaag gacacgcagt ttcagcaaaa 17160  
 ggtggtggac ggcacgctt cgggcctcaa cggcgccgtc gacctggcca accaggccat 17220  
 tcaaaaggaa attaacagcc gcctggagcc gcggccgcag gtggaggaga acctgcccc 17280  
 tctggaggcg ctgccccca agggagagaa gcgccgcgg cccgacatgg aggagacgct 17340  
 agttactaag agcgaggagc gcctatcata cgaggaggcg gtgggtagct cgagctgcc 17400  
 gtccctcacg ctgaagccca ccacctatcc catgaccaag cccatcgct ccatggcgcg 17460  
 ccccggtggg gtcgaccgc ccatcgacgc ggtggccact ttggacctgc cgcgccccga 17520  
 acccggaac cgctgcctc ccgtcccat cgctccgccg gtttctcgcc ccgcatccg 17580

ccccgtcgcc gtggccactc cccgctatcc gagccgcaac gccaaactggc agaccaccct 17640  
caacagtatt gtcgggactgg ggggtgaagtc tctgaagcgc cgtcgcgtgtt tttaaagcac 17700  
aatattattaa acgagtagcc ctgtcttaat ccatcgttgt atgtgtgcct atatcacgcg 17760  
ttcagagcct gaccgtccgt caagatggcc actccgcga tgatgccgca gtggtcgtac 17820  
atgcacatcg ccgggcagga cgcctcggag tacctgagcc cgggtctggg gcagtttgcc 17880  
cgtgcgacgg aaacctactt ctactgggc aacaagtcca ggaacccac cgtggcgccc 17940  
accacgacg tcaccaccga tcggtcccag cgactgacaa tccgcttcgt ccccggtggac 18000  
aaggaagaca ccgcttactc ctacaaaacc cgcttcacgc tggccgtggg cgacaaccgg 18060  
gtgctagaca tggccagtac ctactttgac atccgcggcg tgatcgaccg cggacctagc 18120  
ttcaagcctt actccggcac ggcttacaac tctactggctc ccaaaggggc gcccaacaac 18180  
agccaatgga acgccacaga taacgggaac aagccagtgt gttttgctca ggcagctttt 18240  
ataggtcaaa gcattacaaa agacggagtg caaatacaga actcagaaaa tcaacaggct 18300  
gctgccgaca aaacttacca accagagcct caaattggag tttccacctg ggataccaac 18360  
gttaccagta acgctgccgg acgagtgtta aaagccacca ctcccatgct gccatgttac 18420  
ggttcatatg ccaatccac taatccaaac gggggtcagg caaaaacaga aggagacatt 18480  
tcgctaaact ttttcacaac aactgcggca gcagacaata atcccaaagt ggttctttac 18540  
agcgaagatg taaaccttca agccccgat actcacttag tatataagcc aacgggtggga 18600  
gaaaacgtta tcgccgcaga agccctgcta acgcagcagg cgtgtcccaa cagagcaaac 18660  
tacataggtt tccgagataa ctttatcggt ttaatgtatt ataacagcac agggaacatg 18720  
ggagtcttg caggtcaggc ctgcagttta aacgcagttg tagacctgca agatcgaaac 18780  
acggaactgt cctatcagct aatgctagat gctctgggtg acagaactcg atatttctca 18840  
atgtggaatc aggccgtgga cagctacgat ccagacgtta ggattatcga gaacctggg 18900  
gtggaagacg agctgcccac ttactgtttt cactcccag gcatgggtat ttttaactcc 18960  
tacaaggggg taaaaccaca aaatggcggt aatggttaact ggggaagcaaa cggggacctta 19020  
tcaaagtcca atgagatcgc tttaggaaac atttttgcca tggaaattaa cctccacgca 19080  
aacctgtggc gcagcttctt gtacagcaat gtggcgctgt acctgccaga cagctataaa 19140  
ttcactccc ctaacatcac tctgcccgc aacaaaaca cctacgagta tatcaacggg 19200  
cgcgtcactt ctcaaccct ggtggacacc tttgttaaca ttggagccc atggtcgccg 19260  
gatcccatgg acaacgtcaa cccctttaac catcaccgga acgcgggcct ccgttaccgc 19320  
tccatgctgc tgggaaatgg acgcgtgggt ctttccaca tacaagtgcc gcaaaaattt 19380  
ttcgcgatta agaacctcct gcttttgccc ggctcctaca cttacgagtg gagcttcaga 19440  
aaagacgtga acatgattct gcagagcacc ctgggcaatg atcttcgagt ggacggggcc 19500  
agcgtccgca ttgacagcgt caactgtac gccaaacttt tcccatggc gcacaacacc 19560  
gcttctacct tggaagccat gctgcgaaac gacaccaacg accagtcgtt taacgactac 19620

ctcagcgcg ccaacatgct ttatcccatt ccggccaacg ccaccaacgt tcccatttcc 19680  
attccctccc gcaactgggc ggccttccgg ggatggagct tcacccgcct taaagccaag 19740  
gaaacgcctt ccttgggctc cggctttgac ccctactttg tgtactcagg caccatttct 19800  
tacctggacg gcagctttta cctcaaccac actttcaaac gtctgtccat catgttcgat 19860  
tcttccgtaa gttggccggg caacgaccgc ctctgacgc cgaacgagtt cgaaattaag 19920  
cgcatgtggt acggggaagg ctacaacgtg gctcaaagta acatgaccaa agactgggtt 19980  
ttaattcaaa tgctcagcca ctacaacatc ggctaccaag gcttctatgt tcccaggggc 20040  
tacaaggatc ggatgtattc tttcttccga aactttcagc ccatgagccg ccagggtgccg 20100  
gatcccaccg ctgccggcta tcaagccgtt cccctgccc aacaacacaa caactcgggc 20160  
tttgtggggt acatggggcc gaccatgcgc gaaggacagc catacccggc caactacccc 20220  
tatccctga tcggcgctac cgccgtcccc gccattacc agaaaaagt tttgtgcgac 20280  
cgcgatcatgt ggcgcatacc ttttccagc aactttatgt caatgggggc cctgaccgac 20340  
ctcggacaga acatgcttta cgctaactcc gccatgccc tggatatgac ttttgagggtg 20400  
gaccccatga acgagccac gttgtgtac atgctttttg aggtgttcga cgtggtcaga 20460  
gtgcaccagc cgcaccgcgg tattatcgag gccgtgtacc tgcgcacccc cttctctgcg 20520  
ggcaatgcc aacataagc cgctgaacta gctggttttt accccagatc ccatgggctc 20580  
cacggaagac gaactgcggg ccattgtgcg agacctgggc tgcggaccct acttcttggg 20640  
cacctttgac aagcggtttc ccgggttcgt gtctcctcgc aaactcgcgt gcgcgatcgt 20700  
gaataccgcc ggccgagaga ccggaggaga gcattggcta gctctgggct ggaacccccg 20760  
ctcgtccacg ttttctctgt tcgacccctt tggttttca gaccaacgct tgaagcagat 20820  
ctatgcattt gaatatgagg gtctactcaa gcgaagcgcg ctggcctcct ccgccgatca 20880  
ctgtctaacc ctggtaaaga gcactcagac gggtcagggc cctcacagcg ccgcctgtgg 20940  
ccttttttgt tgcatgtttt tgcacgcctt tgtgaactgg ccggacaccc ccatggaaaa 21000  
caacccacc atggacctc tgactggcgt tcccaactcc atgctccaaa gcccagcgt 21060  
gcagaccacc ctctccaaa accagaaaaa tctgtacgcc tttctgcaca agcactctcc 21120  
ctactttcgc cgccatcggg aacaaataga aaatgcaacc gcgtttaaca aaactctgta 21180  
acgtttaata aatgaacttt ttattgaact ggaaaacggg tttgtgattt ttaaaaatca 21240  
aaggggttga gctggacatc catgtgggag gccggaaggg tgggtgttctt gtactggtac 21300  
ttgggcagcc acttaaaactc tggaatcaca aacttgggca gcggtatttc tgggaagtgt 21360  
tcgtgccaca gctggcgggt cagctgaagt gcctgcagaa catcgggggc ggagatcttg 21420  
aagtcgcagt ttatctggtt cacggcacgc gcgttgcggt acatgggatt ggcacactga 21480  
aacaccagca ggctgggatt cttgatgcta gccagggcc aaggcgtcgt cacgtcaccg 21540  
gtgtcttcta tggtggacag cgaaaaaggc gtgactttgc aaagctggcg tcccgcgcga 21600  
ggcacgcaat ctcccaggta gttgcactca cagcggatgg gcagaagaag atgcttgtgg 21660  
ccgcgggtca tgtagggata ggccgctgcc ataaaagctt cgatctgcct gaaagcctgc 21720

ttggccttgt gcccttcggt ataaaaaaca ccgcaggact tgttggaata ggtattactg 21780  
gcgcaagcgg catcgtgaaa gcaagcgcgt gcgtcttcgt ttcgtaactg caccacgctg 21840  
cggccccacc ggttctgaat caccttggcc ctgccggggt tttccttgag agcgcgctgg 21900  
ccggcttcgc tgcccacatc catttccacg acatgctcct tgttaatcat ggccagaccg 21960  
tgagggcagc gcagctcctc gtcacgtcgc gtgcagtgat gctccacac gacgcagcca 22020  
gtgggctccc acttgggctt ggaggcctcg gcaatgccag aatacaggag aacgtagtgg 22080  
tgcagaaaac gtcccatcat ggtgccaaag gttttctggc tgctgaaggc catcgggcag 22140  
tacctccagt cctcgttaag ccaagtgttg cagatcttcc tgaagaccgt gtactgatcg 22200  
ggcataaaagt ggaactcatt gcgctcggtc ttgtcgatct tatacttttc catcagacta 22260  
tgcataatct ccatgccctt tccccaggcg caaacaatct tgggtgctaca cgggttaggt 22320  
atggccaaag tggttggcct ctgaggcggc gcttgttctt cctcttgagc cctctcccga 22380  
ctgacggggg ttgaaagagg gtgccccttg gggaacggct tgaacacggc ctggcccag 22440  
gcgtcccga gaatctgcat cgggggattg ctggccgtca tggcgatgat ctgaccccgg 22500  
ggctcctcca cttcgtcctc ctcgggactt tcctcgtgct tttcggggga cggtagggga 22560  
gtagggggaa gagcgcggcg cgcttcttc tggggcggca gttccggagc ctgctcttga 22620  
cgactggcca ttgtcttctc ctaggcaaga aaaacaagat ggaagactct ttctcctcct 22680  
cctcgtcaac gtcagaaagc gactcttcca ccttaagcgc cgagaactcc cagcgcatag 22740  
aatccgatgt gggctacgag actcccccg cgaacttttc gccgcccccc ataaacta 22800  
acgggtggac ggactacctg gccctaggag acgtactgct gaagcacatc aggcggcaga 22860  
gcgttatcgt gcaagatgct ctcaccgagc gactcgcggt tccgctggaa gtggcggaac 22920  
ttagcgccgc ctacgagcga accctcttct ccccaaagac tcccccaag aggcaggcta 22980  
acggcacctg cgagcctaac cctcgactca acttctaccc tgcctttgcc gtgccagagg 23040  
tactggctac gtaccacatt tttttccaaa accacaaaat ccctctctcg tgccgcgcca 23100  
accgcaccaa agccgatcgc gtgctgcgac tggaggaaagg ggctcgcata cctgagattg 23160  
cgtgtctgga ggaagtccca aaaatctttg aaggctctggg ccgcgacgaa aagcagagcag 23220  
caaacgctct ggaagagaac gcagagagtc acaacagcgc cttggtagaa ctcgagggcg 23280  
acaacgccag actggccgct ctcaaacggc ccatagaagt cacgcacttc gcctaccccg 23340  
ccgttaacct ccctccaaa gtatgacag cggctatgga ctgctgctc ataaagcgcg 23400  
ctcagccctt agaccagag cacgaaaaca acagtgcga aggaaaaccg gtggtttctg 23460  
atgaggagtt gagcaagtgg ctgtcctcca acgacccgc cacgttggag gaacgaagaa 23520  
aaaccatgat ggccgtggtg ctagtaccg tgcaattaga atgtctgcag aggttctttt 23580  
cccaccaga gaccctgaga aaagtggagg aaacgctgca ctacacattt aggcacggct 23640  
acgtgaagca agcctgcaag atttccaacg tagaacttag caacctcatc tcctacctgg 23700  
ggatcttgca cgaaaaccgc ctcggacaaa acgtgctgca cagcacactg aaaggagaag 23760

cccgccgaga ctatgtgcga gactgctgtt tcctagcgct agtgtacacc tggcagagcg 23820  
gaatgggagt ctggcagcag tgcctggagg acgaaaacct caaagagctt gaaaagctgc 23880  
tggtgcgctc cagaagggca ctgtggacca gttttgacga gcgcaccgcc gcgcgagacc 23940  
tagctgatat tatttttcct cccaagctgg tgcagactct ccgggaagga ctgccagatt 24000  
ttatgagtca aagcatcttg caaaacttcc gctctttcat cttggaacgc tcgggaatct 24060  
tgcccgccac tagctgcgcc ctaccacag attttgtgcc tctccactac cgcaaatgcc 24120  
caccgccgct gtggccgtac acttacttgc ttaaactggc caactttcta atgttccact 24180  
ctgacctggc agaagacggt agcggcgagg ggctgctaga atgccactgc cgctgcaacc 24240  
tgtgcacccc ccaccgctct ctagtatgca aactccctt gctcaatgag acccagatca 24300  
tcggtacctt tgaaatccag ggaccctccg acgcggaaaa cggcaagcag gggctctgggc 24360  
taaaactcac agccggactg tggacctccg cctacttgcg caaatttgta ccagaagact 24420  
atcacgccc ccaaattaa ttttacgaaa accaatcaaa accacccaaa agcgagttaa 24480  
cggcttgctg cattacgcag agcagcatag ttgggcagtt gcaagccatt aacaaagcgc 24540  
ggcaagagtt tctcctaaaa aaaggaaaag gggcttactt ggacccccag accggcgagg 24600  
aactcaacgg accctcctca gtcgcagggt gtgtgcccc tgcgcgccaa aaagaacacc 24660  
tcgcagtgga acatgccaga gacggaggaa gaggagtgga gcagtgtgag caacagcgaa 24720  
acggaggaag agccgtggcc cgaggggtgc aacggggaag aggacacgga gggacggcga 24780  
agtcttcgcc gaagaactct cgccgctgcc cccgaagtcc cagccggccg cctcggccca 24840  
agatcccgca cacaccgta gatgggatag caagacaaa aagccgggta agagaaacgc 24900  
tcgccccgc cagggctacc gctcgtggag aaagcacaaa aactgcatct tatcgtgctt 24960  
gctccagtgc ggcgagacg tttcgttcac ccgtagatac ttgcttttta acaaaggggt 25020  
ggcgtcccc cgtaacgtcc tccactacta ccgtcactct tacagctccg aagcggacgg 25080  
ctaagaaaac gcagcagttg ccggcgggag gactgctct cagcgcgccga gaacccccag 25140  
ccaccaggga gtcaggaaac cgcatatttc ccacctcta cgctatcttt cagcaaagcc 25200  
gggggcagca gcaagaactg aaaataaaaa accgcacgct gaggtcgtt acccgaagct 25260  
gcctctatca caagagcgaa gagcagctgc agcgaacctt ggaggacgca gaagcgctgt 25320  
tccagaagta ctgcgcgacc accctaaata actaaaaaag cccgcgcgcg ggacttcaaa 25380  
ccgtctgacg tcaccagccg cgcgccaaaa tgagcaaaga gattccacg cttacatgt 25440  
ggagttacca gccgcagatg ggattagccg ccggcgccgc ccaggattac tccacgaaaa 25500  
tgaactggct cagcgcggg ccccatatga tttcccgct aaacgacatt cgcgccacc 25560  
gcaatcagct attgttagaa caggctgctc tgaccgccac gccccgtaat aacctgaacc 25620  
ctccagctg gccagctgcc ctggtgtacc aggaacgcc tccaccacc agcgtacttt 25680  
tgccccgtga cggccaggcg gaagtccaga tgactaacgc gggcgcgcaa ttagcggcg 25740  
gatcccggtt tcggtacaga gttcacggcg ccgcacccta tagccaggt ataaagaggc 25800  
tgatcattcg aggcagaggt gtccagctca acgacgagac agtgagctct tcgcttggtc 25860

tacgaccaga cggagtgttc cagctcgcgg gctcgggccg ctcttcgttc acgcctcgcc 25920  
aggcatacct gactctgcag agctctgcct ctcagcctcg ctcgggagga atcggacccc 25980  
ttcagtttgt ggaggagtgt gtgccctcgg tctactttca gcctttctcc ggatcgcccc 26040  
gccagtaccc ggacgagttc atccccaact tcgacgcggt gagtgactct gtggacgggt 26100  
atgactgatg tcgagcccg cttcagtgtta gtggaacaag cgcggctcaa tcacctgggt 26160  
cgttgccgcc gccgctgctg cgtggctcgc gacttgagct tagctctcaa gtttgtaaaa 26220  
aaccgcgtccg aaaccgggag cgctgtgcac gggttggagc tagtgggtcc tgagaaggcc 26280  
accatccacg ttctcagaaa ctttgtggaa aaaccattt tggttaaacg agatcagggg 26340  
ccttttgtaa tcagcttact ctgcacctgt aacctgttg accttcacga ctattttatg 26400  
gatcatttgt gcgctgaatt caataagtaa agcgaattct taccaagatt atgatgtcca 26460  
tgactgttcc tcgccactat acgatgttgt gccagtaaac tctcttgcg acatctatct 26520  
gaactgttcc ttttgggtccg cacagcttac ttggtactac ggtgacaccg tcctttctgg 26580  
ctcactgggc agctcacacg gaataacact tcacctctt tcgccgtttc gatacggaaa 26640  
ctacagctgt cgtgccggt cctgcctcca cgttttcaat cttcagccct gtccaccgac 26700  
caaacttgta tttgtcgact ctaagcactt acagctcaac tgcagcattc taggccccag 26760  
tatcttgtgg acatacaata aaatcagggt ggtggaattt gtctactacc caccagcgc 26820  
ccgcggtttt ggggaaattc ctttcagat ctactacaac tatcttgcca cacattatgc 26880  
aagtcaacag caactaaact tgcaagcacc cttcacgcca ggagagtact cctgtcacgt 26940  
aggctcctgc acagaaactt ttattctctt caacagatct tctgccattg aacgcttcac 27000  
tactaactac tttagaaacc aagttgtgct tttcactgac gaaacccta acgtcacct 27060  
ggactgtgca tgttttctc atgacaccgt aacttgact cttacaata ctctctggct 27120  
cgcgttcgat aaccaaagct tgattgttaa aaattttgat ttaaccttta ctaaaccctc 27180  
tcctcgcgaa atagttatct ttgctcctt taatccaaaa actaccttag cctgtcaggt 27240  
tttgtttaag cttgccaaca caaacttta gtttgttat ttgcctccgc aatctgtcaa 27300  
actcatagaa aaatacaaca aagcgcctgt cttggctcct aaaaccttct accactggct 27360  
aacctacacg gggctgtttg cactaattgt ttttttctta attaacattt ttatatgttt 27420  
cttgccctcc tccttctttt cgcgaacacc gttgccgcag aaagacctct ccttattact 27480  
gtagcgcttg ctatacaaaa ccaagagtgg tcaaccgtgc tctcaatcta ttttcaattt 27540  
ttcattttgt ctttaatact ttctcttatt gtcgttaaca atgatctgga gcattgggtct 27600  
cgcctttttt tggctgctta gtgcaaaagc cactattttt cacaggtatg tggagaagg 27660  
aactagcacc ctctttacga tacctgaaac aattaaggcg gctgatgaag tttcttggtta 27720  
caaaggctcg ctctcagacg gcaaccactc attctcagga cagacccttt gcatccaaga 27780  
aacttatttt aaatcagaac tacaatacag ctgcataaaa aactttttcc atctctacaa 27840  
catctcaaaa ccctatgagg gtatttacaa tgccaagggt tcagacaact ccagcacacg 27900

gaactttttac tttaatctga cagttattaa agcaattttcc attcctatct gtgagtttag 27960  
ctcccagttt ctttctgaaa cctactgttt aattactata aactgcacta aaaatcgctt 28020  
tcacaccacc ataatctaca atcacacaca atcaccttgg gttttaaacc taaaattttc 28080  
tccacacatg ctttcgcaat ttctcacgca agttaccgtc tctaacataa gcaagcagtt 28140  
tggctttttac tatcctttcc acgaactgtg cgaaataatt gaagccgaat atgaaccaga 28200  
ctactttact tacattgcca ttggtgtaat cgttgtttgc ctttgctttg ttattggggg 28260  
gtgtgtttat ttgtacattc agagaaaaat attgctctcg ctgtgctcct gcggttacia 28320  
agcagaagaa agaattaaaa tctctacact ttattaatgt tttccagaaa tggcaaaact 28380  
aacgctccta cttttgcttc tcacgccggt gacgcttttt accatcactt tttctgccgc 28440  
cgccacactc gaacctcaat gtttgccacc ggttgaagtc tactttgtct acgtgttgct 28500  
gtgctgcggt agcgttttga gtataacatg ttttaccttt gtttttcttc agtgcatgga 28560  
ctacttctgg gtcagactct actaccgag acacgcgcct cagtatcaaa atcaacaaat 28620  
tgccagacta ctcggtctgc catgattgtc ttgtatttta ccctgatttt tttcacctt 28680  
acttgcgctt gtgattttca cttcactcaa ttttgaaaa cgcaatgctt cgacccgcgc 28740  
ctctccaacg actggatgat ggctcttgca attgccacgc ttggggcggt tggacttttt 28800  
agtggttttg ctttgcatta caaatttaag actccatgga cacatggctt tctttcagat 28860  
tttccagtta cacctactcc gccgcctccc ccggccatcg acgtgcctca ggttccctca 28920  
ccttctccat ctgtctgcag ctactttcat ctgtaatggc cgacctagaa tttgacggag 28980  
tgcaatctga gcaaagggct atacacttcc aacgccagtc ggaccgcgaa cgcaaaaaca 29040  
gagagctgca aaccatacaa aacaccacc aatgtaaacg cgggatattt tgtattgtaa 29100  
aacaagctaa gctccactac gagcttctat ctggcaacga ccacgagctc caatacgtgg 29160  
tcgatcagca gcgtcaaacc tgtgtattct taattggagt ttccccatt aaagtactc 29220  
aaaccaaggg tgaaaccaag ggaaccataa ggtgctcatg tcacctgtca gaatgccttt 29280  
acactctagt taaaacccta tgtggcttac atgattctat cccctttaat taaataaact 29340  
tactttaaat ctgcaatcac ttcttcgtcc ttgtttttgt cgccatccag cagcaccacc 29400  
ttcccctctt cccaactttc atagcatatt ttccgaaaag aggcgtactt tcgccacacc 29460  
ttaaagggaa cgtttacttc gctttcaagc tctcccacga ttttcattgc agatatgaaa 29520  
cgcgcaaaag tggaagaagg atttaacccc gtttatccct atggatattc tactccgact 29580  
gacgtggctc ctccctttgt agcctctgac ggtcttcaag aaaaccacc tggggtcttg 29640  
tccctaaaaa tatccaaacc tttaactttt aatgcctcca aggccttaag cctggctatt 29700  
ggtccaggat taaaaattca agatggtaaa ctagtggggg agggacaagc aattcttgca 29760  
aacctgccgc ttcaaactac caacaacaca atttactac gttttgggaa cacacttgcc 29820  
ttgaatgaca ataatgaact ccaaaccaca ctaaaatctt catcggccct taaaatcaca 29880  
gaccagactc tgtcccttaa cataggggac agccttgcaa ttaaagatga caaactagaa 29940  
agcgtctctc aagcgaccct cccactctcc attagcaaca acaccatcag cctcaacgtg 30000

ggcaccggac tcaccataaa tggaaacggt ttacaagctg ttcccttaaa tgctctaagt 30060  
 cccctaacta tttccaacaa taacatcagc ctgcgctatg gcagttccct gacggtgctt 30120  
 aacaatgaac tgcaaagcaa cctcacagtt cactcccctt taaaactcaa ctccaacaac 30180  
 tcaattttct tcaacactct atctccgttt agaatcgaga atggtttcct cacgctctat 30240  
 ttgggaacaa aatctggctt gctagttcaa aacagtggct taaaagtcca agcgggctac 30300  
 ggcttgcaag taacagacac caatgctctc acattaagat atctcgctcc actgaccatt 30360  
 ccagactcgg gctcagaaca aggcattctt aaagtaaaca ctggacaggg cctaagtgtg 30420  
 aaccaagctg gagcgcttga aacatcccta ggaggtggat taaaatatgc tgataacaaa 30480  
 ataacctttg atacaggaaa cggactgaca ttatctgaaa ataaacttgc agtagctgca 30540  
 ggtagtggtc taacttttag agatggtgcc ttggtagcca cggaaccgc atttacgcaa 30600  
 aactgtgga ctacggctga tccgtctccc aactgcacaa ttatacagga ccgcgacaca 30660  
 aaatttactt tggcgcttac cattagtggg agccaagtgc tggggacggt ttccattatt 30720  
 ggagtaaaag gccccctttc aagtagcata ccgtcagcta ccgttacagt acaacttaac 30780  
 tttgattcca acggagccct attgagctcc tcttcactta aaggttactg ggggtatcgc 30840  
 caaggtccct caattgaccc ttaccccata attaatgcct taaactttat gccaaactca 30900  
 ctggcttatc ccccgggaca agaaatccaa gcaaaatgta acatgtacgt ttctactttt 30960  
 ttacgaggaa atccacaaag accaatagtt ttaaacatca cttttaataa tcaaaccagc 31020  
 gggttttcca ttagatttac atggacaaat ttaaccacag gagaagcatt tgcaatgcc 31080  
 ccatgcactt tttcctacat tgctgaacaa caataaacta tgtaaccctc accgttaacc 31140  
 cgctccgcc cttccatttt attttataaa ccacccgatc caccttttca gcagtaaaca 31200  
 attgcatgtc agtaggggca gtaaaacttt tgggagttaa aatccacaca ggttcttcac 31260  
 aagctaagcg aaaatcagtt acacttataa aaccatcgct aacatcggac aaagacaagc 31320  
 atgagtccaa agcttccggt tctggatcag atttttgttc attaacagcg ggagaaacag 31380  
 cttctggagg attttccatc tccatctcct tcatcagttc caccatgtcc accgtggtca 31440  
 tctgggacga gaacgacagt tgtcatacac ctcataagtc accggtcgat gacgaacgta 31500  
 cagatctcga agaattgcct gtcgccgcct ttcggcagca ctgggcccga ggcgaaagcg 31560  
 cccatgttta acaatggcca gcaccgccg cttcatcagg cgcctagtct ttttagcgca 31620  
 acagcgcatt cgagctcgc taagactggc gcaagaaaca cagcacagaa ccaccagatt 31680  
 gttcatgatc ccataagcgt gctgacacca gcccatacta acaaattggt tcaactattct 31740  
 agcatgaatg tcatatctga tgttcaagta aattaaatgg cggccctta tgtaaacact 31800  
 tcccacgtac aacacctcct ttggcatctg ataattaacc acctcccgat accaaatata 31860  
 tctctgatta atagtcgccc cgtacactac ccgattaaac caagttgcca acataatccc 31920  
 ccctgccata cactgcaaag aacctggacg gctacaatga cagtgcaaag tccacacctc 31980  
 gttgccatgg ataactgagg aacgccttaa gtcaatagtg gcacaactaa tacaacatg 32040

<221> CDS  
<222> (13796)..(15322)

<220>  
<221> CDS  
<222> (18257)..(21010)

<220>  
<221> CDS  
<222> (27192)..(29015)

<400> 12  
catcatcata atatacctta tttggaacg gtgccaatat gataatgagg aggcgggggtt 60  
aggggtggag tgaggggtggg gtgcggatga cgcgggcgcg gggcgggggtg ggagtctgac 120  
gtggggcgcg ggggtggagcg cgaggggtgag ggcggggcga gggcggcggg cgcggcggaa 180  
ttgacgtaca cggtagtaag tttgagcggg aattaagtga attgggcgtg ttttttgtaa 240  
ctttttgacg tacacggtag taagtttgag cggaaattaa gtgaattggg cgtgtttttt 300  
gtaacttttt gacgtacacg gtagtaagtt tgagcggaaa ttaagtgaat tgggcgtggt 360  
ttttgtaact ttttgacgta cacggtagta agtttgagcg gaaattaagt gaattgggcg 420  
tgttttttgt aactttttga cgtacacggt agtaagtttg agcggaaatt aagtgaattg 480  
ggcgtgtttt ttgtaacttt ttgacgtaca cggtagtaag tttgagcggg aattaagtga 540  
attgggcgtg ttttttgtaa ctttttgacg tacacggtag taagtttgag cggaaattaa 600  
gtgaattggg cgtgtttttt gtaacttttt ggtcattttg gcgcgaaaac tgagtaatga 660  
ggaagtgaga cggactctgc ctttttttac ggttgggagg gaaaactgct gatcagcgct 720  
gaactttggg ctctgacgcg gtggtttccc tacgtggcag tgccacgaga aggctcaaag 780  
tcctcgtttt attgtgtgct cagccttttt gaggggtattt aaacaccgtc agaccgtcaa 840  
gaggccactc ttgagtgcga gcgagtagag ttttctctc cgtcgctgcc gcggctgctc 900  
agtcttaccg ccaggatgcg aatgctgccg gagatcttca ccgggtcctg ggaagatgtt 960  
ttccagggac ttttagaatc tgaagacaac tttccccaac ctctgagcc ggaggagcta 1020  
cctgaggttt cgcttcacga tctgtttgac gtggaggtgg agagccccga cggagatccg 1080  
aacgaggaag ctgttgatgg tatgttcccc gactggatga tatctcagag cgagagtgtc 1140  
gaaggcagtg cggactcggg cgtttctggg gttggaaacc tgggtggagggt ggatctggac 1200  
ttgaagtgtt acgaggaagg ttttctctc agcgactcag agactgatga agcctcagaa 1260  
gcggaaggtc aagaggagtc tgtgtgtggt tatgtgaaga ttaatgaggg ggagaacctg 1320  
ctggtgttgg actgtccgga ccaacctgga catggctgtc gagcctgtga ctttcaccgg 1380  
gggaccagcg gaaaccgga agctatctgt gctttgtgct acatgctgtc gaacgagcac 1440  
tgcataataca gtgagtgtta ttcattgggtt atttatgggg aaagttgggg gaaagtcttg 1500  
agaaggggaa aagtttaaca tgtcattttt gtacttgata ggtccagttt cggacgctga 1560  
gggggattct gagtcccctg ctggtccttc ccagccctca ccctgctctt tgaccgccac 1620  
gcccgcacct gacctagtta gaccaacgcc ctgccgagtg tcctgtagac gacgtgcagc 1680  
tgtaattgac atagaagatt tattggcccc tgatgacgag aacgcacctt tgaacctgtg 1740

cctgaaacgc cctaagacat cttgagtgtt tatgctgtta ataaaagtgt tgacccttag	1800
atcctgtgtt tattccttgg gcgtgtgcgc gggatatataa agcagctgcg ggctggagtg	1860
ttagtttatt ctgatggagt actggagtga gctgcagaat taccagagcc tccggcgcct	1920
gctggagttg gcctctgcca gaacatccac ctgctggagg ttctgttttg gctcgactct	1980
cagtaacgtg gtgtatcggg tgaagcaaga gtacagctcg cgcttttctg agctgttggc	2040
ccgctacccg gctgtttttg tttctctgga tctaggccat cacgtttatt tccaagaagc	2100
tgtagtcaga tatttggtt tttctactcc cgggcgtgcg gtttctgcga ttgccttcat	2160
ctgctttgtg ctagatcgat ggagcgccca aaccgcctg agcccggggt acaccctgga	2220
ctacctgacc atgtccctgt ggagggccat gctgcggaag aggaggggtct caggcttctc	2280
gccggcgcgg cctccgcacg gactggatcc ggtgctggag gagtgcgagc tggaggagga	2340
ggagaacccg agggccggcc tggaccctcc ggcggaatag tgacggaacc ggaggatccc	2400
caagagggta ctagtcaggg gggagggggg ccgaagagaa agcgggatga agaggaggcg	2460
atggaccccg acaggtttct aaaagaactg actttaagct taatgtctaa gagaagacc	2520
gagacggtgt ggtggtctga tttggagaag gagttccacc agggggagat gaatctgttg	2580
tacaagtatg ggtttgagca ggtgaagact cactggctgg aagcctggga ggactgggag	2640
atggctttta acatgtttgc caaggtggcg ctgcgcccgg acactattta caccgtgact	2700
aagacggtgg aaatccgcaa gcctgtgtat gtgattggca acggggccgt ggttcggttc	2760
cagaccaccg accgggtggc ctttaattgc tgtatgcaga acctgggccc gggggtgatt	2820
aatcttaatg gagtgcactt ttgcaatgtc agattcgcg gggatggatt caacgggacg	2880
gtgtttgccg ccaccacca gataacccta cacggggtgt tcttcagca ttaggcggg	2940
gcttgtgtag atacctgggc gagggcctct gtgaggggct gcacctttgt gggctgttgg	3000
aaagcgggtg tgggtcgacc caagagtgtg ctgtctgtga agaaatgtgt gtttgagaga	3060
tgtctgatgg ccatgggtgt ggagggccag ggtaggatcc gccataacgc gggctccgag	3120
aatacctgtt ttgccctgct gaagggtagc gcgaccgtga agcataacat gatctgcggg	3180
gtgggtcact cgcagctgct gacctgtgcg gatggcaact gccaggccct gcgcacggtg	3240
catgtggtgt cccaccggcg ccgcccctgg ccggtgtttg aacataacat gctgatgcgc	3300
tgtaccatgc acctgggcta ccgccgcggc gtgtttgtgc cccatcagt taacctgacc	3360
cacaccaagg tgttgctgga gacggatgct ttttcgcgag tgaatctgaa tggggtgttc	3420
gatctgacta tggagatgta caagatagt agatttgatg aatcaaagac ccgttgtcgc	3480
ccctgcgagt gcggtgcaa tcacctgagg atgtatcccg tgaccctgaa cgtgacggag	3540
gagctgcgcc cggaccacca gatgctgtcc tgtctgcgca ccgattacga aagcagcgat	3600
gaggattaag aggtgagggg cggggcttgc atggggtata aaggtggggg aggaggtggg	3660
gagggggaaa acccaaatg agcggatcga tggaaaggag cgctgtgagt tttgagggcg	3720
gggtgttcag cccatatctg acaaccgctc tccccgcctg ggcaggagtg cgtcagaatg	3780

tggtgggctc caacgtggac ggacgtccgg tggcccctgc caactccgcc actctcacct	3840
acgccaccgt cggatcgtcg ctggacaccg ccgctgccgc cggcgttca gccgccgctt	3900
ctactgctcg cggtatggca gctgatttcg gactgtatca gcaactggct gcgcctcgct	3960
cgtcgtgag agaagatgat gccctgtccg tgggtgtgac ccgcctggag gagctgtccc	4020
agcagctgca agagctgtct gccaaagtgg atgcacagaa cgtccccgct acccaatgaa	4080
taaataaacg agacaccgag tgtgttttga aatcaaaatg tgtttttatt tgttttttct	4140
ggcgcggtag gcccttgacc acctgtcgcg gtcgttaagg accttggtga tgttttccag	4200
caccggtag aggtgggctt ggatgttgag gtacatgggc atgagcccgt ctcgggggtg	4260
gaggtagcac cactggaggg cgctcgtgctc gggggtggtg ttgtagataa tccagtcgta	4320
gcagggtttt tgggcatgga agcggaagat gtctttgaga agcaggctga tggccagggg	4380
gaggcccttg gtgtaggtgt tcacaaagcg gttgagctgg gagggatgca tgcgggggga	4440
gatgagatgc atcttggcct gaatcttgag gttggcgatg ttgccgccca gatcccgcg	4500
ggggctcatg ttgtgcagga ccaccaggac ggtgtagccg gtgcacttgg ggaatttgtc	4560
atgcaacttg gaagggaagg cgtggaagaa cttggagacc cccttggtgc cgccgaggtt	4620
ctccatgcat tcgtccatga tgatggcgat gggacccctg gcggccgccc tggcgaagac	4680
gttgtcgggg tgggagacgt cgtagttctg ttccagggtg agctcgtcgt aggccatttt	4740
gacgaagcgg gggagcaggg tgcccactg ggggacgatg gtaccttcgg gacccggggc	4800
gtagttgccc tcgcagattt gcatctccca ggccttgatc tccgaggggg ggatcatgtc	4860
cacctggggc gcgatgaaga agacggtctc cggggcgggg ttgatgagct gggaggagag	4920
gaggttgagg agcagctgcg acttgccgca cccggtgggc ccgtagatga cccgatgac	4980
gggttgagc tggtagtta aggagctgca gctgccgtcc tcgcgagga acggggcgac	5040
ctcgttcac atgcttctga cgtgatggtt ttccctgacg aggtcttgca agagccgctc	5100
gccgcccagg gagagaagct cttccaggct gcggaaatgc ttgaggggtt tgaggccgctc	5160
ggccatggtc atcttttcca gggactggcg gagcaggtag aggcggtccc agagctcgg	5220
gacgtgttct acggcatctc gatccagcag acttcttggg tgcggggggtt ggggcggctt	5280
tggctgtagg ggaccagccg gtgcgcgtcc agggaggcga gggtgacgtc tttccagggc	5340
cgagcggtt gcgtgagggg ggtctcgggtg acggtgaagg gatgcgctcc cggttgggcg	5400
ctggccaggg tcctcttgag actcatcctg ctggtgtgga agcgggcgtc ttctccctgg	5460
gagtcggcca ggtagcattt gagcatgagg tcgtagctga gggcctcggc cgctggccc	5520
ttggcgcgca gcttgccctt ggagacgtgt ccgcaggcgg gacagtgcag gcacttgagg	5580
gcgtagagct tgggggccag gaagacggac tcgggggagt aggcgtcggc gccgactga	5640
gcgcacgtgg tctcgactc gacgagccag gtgagctccg ggtgttgggg atcaaaaacc	5700
agctggcccc cgtgtttttt gatgcgttc ttacctcggg tctccatgag gcggcgctcc	5760
gcttcggtga cgaagaggct gtcggtgtcg ccgtagacgg atttgagcgc gcgctgctcc	5820
aggggaatcc cgcgatcctc cgcgtgcagg aactcggacc actctgagac gaaggcccgg	5880

gtccacgcga ggacaaagga ggcgatctgg gacgggtagc ggtcgttctc caccagggga	5940
tccaccttct ccagggtgtg caggcagagg tcgtcctcct ccgcgtccat gaagggtgatt	6000
ggcttgtaag tgtatgtcac gtgaccgtcg gggtcgcgcg tgggcttata aaagggggcg	6060
tgcccggcct ccccgctact ttcttccgca tcgctgtgga cgagatccag ctgctcgggt	6120
gagtaggcgc gctggaaggc gggcatgacc tcggcgctga ggggtgtcagt ttccacgaac	6180
gagggtggatt tgatattgac ctgtccggcg gcgatgcttt tgacggtggc ggggtccatc	6240
tggtcagaaa agacgatctt tttgttgtcc agcttggtgg cgaacgaccc gtagagggcg	6300
ttggagagca gcttgcgat ggagcgcagg gtctggttct tctcgcggtc ggcgcgctcc	6360
ttggcggcga tgttgagctg gacgtactcg cgggccacgc agcgccattc ggggaagacg	6420
gtggcgcgct cgtccggcag gaggcgcacg cgccagccgc ggttggtgcag ggtgatgagg	6480
tccacgctgg tggccacctc gccgcgcagt ggctcgttgg tccagcagag gcgcccgc	6540
ttgcgcgagc agaagggggg caggacgtcg agctggctct ccgcgggggg gtcggcgctc	6600
atggtgaaga tgcccggtag cagggtggcg tcgaagtagt cgatggcgac cgcggggtcg	6660
gcgagggcgc gttcccagtc cctgaccgcc agggcgcgct cgtaggggtt gaggggcgcc	6720
ccccagggca tgggatgggt gagggccgag gcgtacatgc cgcagatgtc gtagacgtag	6780
aggggctcgc ggagcacgcc gaggtaggtg ggatagcagc gtccgccgcg gatgctggcg	6840
cgcacgtagt cgtacatctc gtgcgagggg gcgaggaggc cgcctccgag gtcgccgcgc	6900
tgcggtctga cggcccggta ggtgacctgg cggaagatgg cgtgcgagtt ggaggagatg	6960
gtgggcccgt ggaagatggt gaagctggcc tcggggagtc cgacggcgtc gtggacgaac	7020
tgggcgtagg agtcgcgcag cttctgcacg agcgcggcgg tgacgagcac gtccagggcg	7080
cagtagtcga gggctcgcg gacgaggtcg taacggggct cttgcttctt ttcccagagt	7140
tcgcggttga ggaggtactc ctgcgatcc ttccagtact cttcggccgg aaagccgcgt	7200
tcgtccgccca ggtaagaacc cagcatgtag aagcggttga cggctcggta gggacagcag	7260
cccttctcga cgggcagggg gtaggcctgc gcggccttcc tgagcgaggt gtgggtgagg	7320
gcgaagggtg cgcgaccat gaccttgagg aactggaacc tgaagtcggt gtcgtcgcag	7380
gcgccccgct ccagagccc gtagtcggtg cgttcttggc tgcggggggt gggcagggcg	7440
aagggtgacgt cgttgaagag gatcttgccg gcgcgcggca tgaagttgcg ggtgatcctg	7500
aagggccccc gcacgtccga gcggttggtt atgacctggg ccgcgaggac gatctcgtcg	7560
aagccggttga tgttgtggcc gacgatgtag agctcgacga agcgcgggcg cccctgcagc	7620
ttgggggcct tcttgagctc ctcgtaggtg aggcagtcgg gcgagtagag gcccagctcc	7680
tgtcggggccc attcgccac ctgggggttg gcttgcaaga agcccccca gagctgcagg	7740
gcgagctggg tctggaggcg gtcgcggtag tcgcggaact ttttgccac cgccatcttc	7800
tcgggggtga ccacgtagaa ggtgcggccg tcctggcccc aggcgtccca gttctgctcg	7860
cgggcgagac ggcaggcctc ctgcagcagg gcctcctccc cgagagatg catgactagc	7920

atgaagggga	cgagttgctt	gccgaaggca	cccatccacg	tgtaggtctc	tacgtcgtag	7980
gtgacgaaga	gacgttcggt	gcgaggatgc	gagccgagag	gaaagaagtt	gatctcctgc	8040
caccagccgg	aggagtgggc	gttgacgtgg	tggaagtaga	agtcacgccg	gcggaccgtg	8100
cattcgtgct	gatatttgta	aaagcgggcg	cagtactcgc	agcgtgcac	gctctgcaact	8160
tcctgaacga	gatgcacccg	gcgcccgcgc	accaggaggc	ggagggggca	gtccagtggg	8220
gcttcggcgc	gctgtccttc	agcctcgta	tgctcttctg	cacctgcacg	ctcctgctgt	8280
gggtggagga	cggagggagt	gacgacgccg	cgcgagccgc	aggtccagat	gtcgacgcgc	8340
ggcggcctga	ggctcagcgc	caggggtgcg	atctgagcgg	cgtccaggga	gtcgaggaag	8400
gcctcgtga	ggtcgacggg	cagcgtccgc	cgggtggactt	gcaggagacg	ggtaagggcc	8460
ggcgccaggc	gctgatggta	cttgatctcg	agcggttcgt	tggtggaggt	gtcgatggcg	8520
tagagcaggg	cctgaccgcg	ggcggcgacg	atggtgccgc	ggtgccggcg	gtaggtggcg	8580
tattcggggg	ggctcgttac	atcaccgcgc	tgggcctggc	gccgggcggc	agcgggggtt	8640
ctggtcccgc	cggcatgggc	ggcagcggca	cgtcggcgcg	gggctccggc	agcggctggt	8700
gctgagctcg	cagctgactg	gcgtgcgcga	cgcgcggcg	gttgagggtcc	tggatgtgcc	8760
tccgctgcgt	gaagaccacc	gggtcccggg	ctcggaaact	gaaagagagt	tcgacagaat	8820
caatctcggc	atcgttgacg	gccgcctgac	gcaggatctc	ctgcacgtcg	cccagattgt	8880
cctggtaggc	gatctcggac	atgaactggg	cgatctcttc	ctcctggagt	tcgccgcgtc	8940
cggcgcgctt	gacggtggcc	gcgaggtcgt	tggagatgcg	agccatgagc	tgggagaagg	9000
cgttgaggcc	gttctcgttc	cacacgcgac	tgtagacgac	gttgccgacg	gcgtcccggg	9060
cgcgcagtag	cacctgcgcg	acgttgagct	ccacgtgtcg	cgcgaagacg	gcgtagttgc	9120
gcaggcgctg	gaagaggtag	ttgagggtag	tggcgatgtg	ctcgacgacg	aagaagtaca	9180
tgaccagcgc	gcgcagcgtc	atctcgttga	tgtctccgag	ggcttccaag	cgctccatgg	9240
cctcgtagaa	gtcgacggcg	aagttgaaga	actgggagtt	gcgcgccgcg	accgtcagct	9300
cgtcttgcaa	gagccggatc	agctgggcca	cggctctccc	cacctcgcgt	tcgaaggccc	9360
ccggcgcttc	ttcctcctct	ggttcctcgg	cggcctcttc	ttccatgacg	gcttcctctt	9420
cctccggttc	ctcgggcacg	ggcctccggc	ggcgacggcg	cctgatgggc	aggcgggtcca	9480
cgaagcgctt	gatgatctct	ccgcggcggc	ggcgcatggg	ttcggtagcg	gcgcggccgt	9540
tctctcgggg	ccgcagttcg	aagacgcccc	cgcgcaggcc	gccggcgccg	ccgagagggg	9600
gcaggaggtg	ggggccttcg	ggcagcgaga	gggcgctgac	gatgcaccgt	atcatctgtt	9660
gcgtaggtac	agctctccag	gagtcgttga	gcgagtccag	ttggacggga	tccgagaact	9720
tttcgaggaa	agcttcgatc	caatcgagct	cgaaggttaa	gctgaggacg	gtgggatgag	9780
gggcttggcg	ggaggcggag	gcggcagaag	aggaggagga	gggcaggctg	gaggtgatgc	9840
tgctgatgat	gtaattgaag	taggcggttt	tcaaacggcg	gatgggtggc	aggaggacga	9900
cgtctttggg	cccgccctgc	tggatgcgca	ggcggtcggc	catgccccag	gcgtggctct	9960
ggcatcggcg	caggtccttg	tagtagtctt	gcatgagtct	ctcgacgggg	acgtcgtctt	10020

cgctcgccccg gtcggccatg cgggtggagc cgaacccgcg caggggctgc agcagggcca 10080  
ggctcgcgac cacgcgttcg gccagcacgg cctgctggat ctgggtgagc gtggtctgga 10140  
agtcgtccag gtccacgaag cgggtgtagg agcccgtgtt gatggtgtag gtgcagttgg 10200  
ccatgacgga ccagttgacg acttgcatgc cgggctgggt gatctcgggt tagcggaggc 10260  
gcgagtaggc ccgcgactcg aagacgtagt cgttgacagg ggcgcacagg tactggtagc 10320  
cgacgaggaa gtgcggcggc ggctcgcggg agaggggcca gcgcacgggt gcgggggcgc 10380  
cgggggccag gtcctccagc atgaggcggg ggtagtggtg gacgtagcgc gagagccagg 10440  
tgatgccggc ggcggagggt gcggcgcggg cgaagtcgcg gacgcgggtc cagatgttgc 10500  
gcaagggggc gaagcgtcc atggtgggca cgctctggcc ggtgaggcgg gcgcagtcct 10560  
gcacgtcta gacgggacag agagcgggag gttagcggct ccgctccgtg gcctggggga 10620  
cagaccgcca ggggtgcgacg gcggggaacc ccggttcgag accggctgga tccgtccgtc 10680  
cccgcgcgc cggccccgcg tccacgacct caccagaggc cgagaccag ccgcgggtgc 10740  
cggaccccag atacggaggg gagccttttt gtggtttttt cccgtagatg catccggtgt 10800  
tgcgacagat gcgtccgtcg ccagcgccgc cgacgcagcc gccgctcccg cccccacta 10860  
gcgccgcgga ggctctgtcc ggcggccgcg gcgacccgga ggaggaggcc atcctcgact 10920  
tggaagaagg cgagggcctg gcccggtgg gagcgccctc ccccgagcgc catccccgcg 10980  
tgcagctggc gagagactcg gcggaggcct acgtgccgcc gcagaatctg ttcagggacc 11040  
gcagcgcca ggagcccag gagatgagg accgcagggt tcacgcggg cgggagctgc 11100  
gcgcgggctt cgaccgtcg cgggtgttgc gcgccgaaga cttcgagccc gacgagcgca 11160  
gcggagtaag tccggcacgg gcgcacgtgt cggcgccaa cctggtgacc gcgtacgagc 11220  
agacggtgaa cgaggagcgg agctttcaga aaagcttcaa caaccacgtg cgcacctga 11280  
tcgcgcgca ggaggtggcc atcggcctga tgcattctgt ggactttgtg gaggcgtacg 11340  
tgcagaaccc gtcgagcaag ccgctgacgg cgagttgtt cctgatcgtg cagcacagtc 11400  
gggacaacga gacgttcgc gaggcgatgc tgaacatgc ggagcccag ggccgctggc 11460  
tcttgacct gattaacatc ctgcagagca tcgtggtgca ggagcgcagc ctgagcctgg 11520  
ccgacaagg ggcggccatc aactacagca tggtgagcct gggcaagttt tacgcccga 11580  
agatctaca gagcccctac gtgcccatag acaaggagg gaagatcgac agcttttaca 11640  
tgcggatggc gctgaaagt ctgacgtga gcgacgatct gggggtgtac cgcaacgacc 11700  
gcatccacaa ggccgtgagc gccagccgcc ggcgcgagct gagcgaccgc gagctgatgc 11760  
acagcctgcg gagggcgctg gcgggcgccg gcggcgcgga ggaggccgag tcctacttcg 11820  
acatgggggc ggacttgca tggcagccca gcgcgcgggc cctggaggcg gcgggctacc 11880  
gcggcgcgcg cggcgtgggt gaggcggagg acgaggacga ggtggagtac gaggaggagg 11940  
actgatcggc gaggtgtttt cgtagatgca gcgcgcgacg gcggcgcgga gcgggcccga 12000  
gggggacccc gccgtgctgg cggccctgca gagccaacct tcgggctga acgcctccga 12060

tgactgggcg	gcggccatgg	accgcatttt	ggccttgacc	acccgcaacc	ccgaggcctt	12120
tagacagcag	ccgcaggcca	accgcttttc	ggccatcttg	gaagccgtgg	tgccctcgcg	12180
caccaacccc	acgcacgaga	aggtcctggc	ggtggtgaac	gcgctgctgg	agagcaaggc	12240
gatccgcaag	gacgaggcgg	ggctgattta	caacgccctg	ctggagcggg	tggcgcgcta	12300
caacagcacc	aacgtgcagg	ccaacctgga	ccgtctgacg	acggacgtgc	gggaggcggt	12360
ggcgacgcgg	gagcgcttca	tgcgcgacac	gaacctgggc	tcgcagggtgg	ccctgaacgc	12420
cttcctgagc	acgcagcccg	ccaacgtgcc	gcgcgggcag	gaggactacg	tcagtttcat	12480
cagcgcgctg	cgctccttgg	tggccgaggt	gccgcagagc	gaggtgtacc	agtcgggtcc	12540
ggactacttc	ttccagacct	cgcggcaggg	cctgcagacg	gtgaacctga	cgcaggcctt	12600
caagaacctg	gaaggcatgt	ggggcgctgcg	ggcccccg	ggcgaccggg	cgacgatctc	12660
cagcttgctg	acgccgaaca	cgcggtctgt	gctgctgctg	atcgcgccct	tcaccaatag	12720
cagtaccatc	agccgcgact	cgtacctggg	ccacctgatc	acgctgtacc	gcgaggccat	12780
cgggcaggcg	caggtggacg	agcagacctt	ccaggagatt	acgagcgtga	gccggggcct	12840
ggggcagcag	gacacgggta	gcctggaggc	gacgctgaat	tttctgctga	ccaaccggcg	12900
gcagaagatc	ccctcccagt	acacgctgag	cacggaggag	gagcgcatct	tgcgctacgt	12960
gcagcagtcc	gtgagcctgt	atctgatgcg	cgagggggcg	agccccctgt	cggcgctgga	13020
catgacggcc	cgtaacatgg	agccgtcgct	gtacgcggcc	caccggccgt	tcgtgaaccg	13080
cctgatggac	tacctgcacc	gcgccgccgc	catgaacggc	gagtacttta	cgaacgccat	13140
cctgaacccg	cactggatgc	cgccgtccgg	tttctacacg	ggggactttg	acatgcccga	13200
gggcgacgac	gggttcctgt	gggacgacgt	gtcggacagc	gtgttcgcgc	cggtgcgtcc	13260
gggcaagaag	gagggcgggc	acgagctgcc	gctgtccgtg	gtggaggcgg	cgtcgcgcgg	13320
ccagagcccc	ttccccagcc	tcccgtcgtt	gtcggcgagc	agcagcagcg	gccgggtctc	13380
gcgcccgcgg	ctggagggcg	actacctgaa	cgacccgctg	ctgcgccccg	cccggcccaa	13440
gaactttccc	aacaacgggg	tggagagcct	agtggataag	atgaatcgct	ggaagaccta	13500
cgcccaggag	cagcgggagt	gggaggagag	tcagccccgc	ccctgcctc	cgccgcgctc	13560
caggtggcgc	cggcgggaa	aagacccgga	agactcggcg	gacgatagca	gcgtgttgga	13620
cttggggggg	accggtgccg	cctcgacaaa	cccgttcgcc	cacctgcgcc	cgcagggccg	13680
gctgggtcgg	ctgtattgag	gaaagaaact	aataaaagaa	aaaagagctt	gcttaccaga	13740
gccatggctg	cagcgtcgg	ccctttgtgt	gtgttttctc	ctccccggta	gcgaa atg Met 1	13798
agg cgc gcg gtg gga gtg ccg ccg gtg atg gcg tac gcc gag ggt cct	Arg Arg Ala Val Gly Val Pro Pro Val Met Ala Tyr Ala Glu Gly Pro	5	10	15		13846
cct cct tct tac gaa acg gtg atg ggc gcc gcg gat tcg ccg gcc acg	Pro Pro Ser Tyr Glu Thr Val Met Gly Ala Ala Asp Ser Pro Ala Thr	20	25	30		13894
ctg gag gcg ctc tac gtc cct ccc cgc tac ctg ggg cct acg gag ggg						13942

Leu	Glu	Ala	Leu	Tyr	Val	Pro	Pro	Arg	Tyr	Leu	Gly	Pro	Thr	Glu	Gly	
35						40					45					
agg	aac	agc	atc	cgt	tac	tca	gag	ctg	gcg	ccg	ctg	tac	gac	acc	acc	13990
Arg	Asn	Ser	Ile	Arg	Tyr	Ser	Glu	Leu	Ala	Pro	Leu	Tyr	Asp	Thr	Thr	
50				55					60					65		
cgc	gtg	tac	ctg	gtg	gat	aac	aag	tcg	gcg	gac	atc	gcg	tcg	ctg	aac	14038
Arg	Val	Tyr	Leu	Val	Asp	Asn	Lys	Ser	Ala	Asp	Ile	Ala	Ser	Leu	Asn	
				70					75					80		
tac	cag	aac	gac	cat	agc	aac	ttt	ctg	acc	acg	gtg	gtg	cag	aac	aat	14086
Tyr	Gln	Asn	Asp	His	Ser	Asn	Phe	Leu	Thr	Thr	Val	Val	Gln	Asn	Asn	
			85					90					95			
gac	ttt	acc	ccg	gtg	gag	gcg	ggc	acg	cag	acc	ata	aat	ttc	gac	gag	14134
Asp	Phe	Thr	Pro	Val	Glu	Ala	Gly	Thr	Gln	Thr	Ile	Asn	Phe	Asp	Glu	
		100					105					110				
cgc	tcg	cgg	tgg	ggc	ggc	gac	ctg	aaa	acc	atc	ctg	cgc	acc	aac	atg	14182
Arg	Ser	Arg	Trp	Gly	Gly	Asp	Leu	Lys	Thr	Ile	Leu	Arg	Thr	Asn	Met	
	115					120					125					
ccc	aac	atc	aac	gag	ttc	atg	tcc	acc	aac	aag	ttc	agg	gcc	cgg	ttg	14230
Pro	Asn	Ile	Asn	Glu	Phe	Met	Ser	Thr	Asn	Lys	Phe	Arg	Ala	Arg	Leu	
130					135					140					145	
atg	gta	gag	aaa	gtg	aac	aag	gaa	acc	aat	gcc	cct	cga	tac	gag	tgg	14278
Met	Val	Glu	Lys	Val	Asn	Lys	Glu	Thr	Asn	Ala	Pro	Arg	Tyr	Glu	Trp	
				150					155					160		
ttt	gag	ttc	acc	ctg	ccc	gag	ggc	aac	tac	tcg	gag	acc	atg	acc	ata	14326
Phe	Glu	Phe	Thr	Leu	Pro	Glu	Gly	Asn	Tyr	Ser	Glu	Thr	Met	Thr	Ile	
			165					170					175			
gac	ctg	atg	aat	aac	gcg	atc	gtg	gac	aac	tac	ttg	gaa	gtg	ggg	cgg	14374
Asp	Leu	Met	Asn	Asn	Ala	Ile	Val	Asp	Asn	Tyr	Leu	Glu	Val	Gly	Arg	
		180					185					190				
cag	aac	ggg	gtg	ctg	gag	agc	gac	atc	ggg	gtg	aag	ttt	gac	acg	cgc	14422
Gln	Asn	Gly	Val	Leu	Glu	Ser	Asp	Ile	Gly	Val	Lys	Phe	Asp	Thr	Arg	
	195					200					205					
aac	ttc	cgg	ctg	ggc	tgg	gac	ccg	gtc	acc	aag	ctg	gtc	atg	ccc	ggc	14470
Asn	Phe	Arg	Leu	Gly	Trp	Asp	Pro	Val	Thr	Lys	Leu	Val	Met	Pro	Gly	
210					215					220					225	
gtg	tac	acc	aac	gag	gcc	ttc	cac	ccc	gac	atc	gtc	ctg	ctg	ccc	ggc	14518
Val	Tyr	Thr	Asn	Glu	Ala	Phe	His	Pro	Asp	Ile	Val	Leu	Leu	Pro	Gly	
				230					235					240		
tgc	ggc	gtg	gac	ttc	acg	cag	agc	cgg	ctg	agc	aac	ctg	ctg	ggg	atc	14566
Cys	Gly	Val	Asp	Phe	Thr	Gln	Ser	Arg	Leu	Ser	Asn	Leu	Leu	Gly	Ile	
			245					250					255			
cgc	aag	cgg	atg	ccc	ttc	cag	gcg	ggt	ttt	cag	atc	atg	tac	gag	gac	14614
Arg	Lys	Arg	Met	Pro	Phe	Gln	Ala	Gly	Phe	Gln	Ile	Met	Tyr	Glu	Asp	
		260					265					270				
ctg	gag	ggc	ggc	aac	atc	ccc	gcc	ttg	cta	gac	gtg	gcg	aaa	tac	gag	14662
Leu	Glu	Gly	Gly	Asn	Ile	Pro	Ala	Leu	Leu	Asp	Val	Ala	Lys	Tyr	Glu	
	275					280					285					
gcc	agc	att	cag	aag	gcg	cgg	gag	cag	ggc	cag	gag	atc	cgc	ggc	gac	14710
Ala	Ser	Ile	Gln	Lys	Ala	Arg	Glu	Gln	Gly	Gln	Glu	Ile	Arg	Gly	Asp	
290					295				300					305		
aac	ttt	acc	gtc	atc	ccc	cgg	gac	gtg	gag	atc	gtg	ccc	gtg	gag	aag	14758
Asn	Phe	Thr	Val	Ile	Pro	Arg	Asp	Val	Glu	Ile	Val	Pro	Val	Glu	Lys	

310	315	320	
gat agc aag gac cgc agt tac aac cta ctc ccc ggc gac cag acc aac Asp Ser Lys Asp Arg Ser Tyr Asn Leu Leu Pro Gly Asp Gln Thr Asn 325 330 335			14806
acg gcc tac cgc agc tgg ttc ctg gcc tac aac tac ggc gac ccc gag Thr Ala Tyr Arg Ser Trp Phe Leu Ala Tyr Asn Tyr Gly Asp Pro Glu 340 345 350			14854
aag ggc gtc agg tcc tgg acg ctg ctg acc acc acg gac gtc acc tgc Lys Gly Val Arg Ser Trp Thr Leu Leu Thr Thr Thr Asp Val Thr Cys 355 360 365			14902
ggc tcg cag cag gtg tac tgg tgc ctc ccg gac atg atg caa gac ccc Gly Ser Gln Gln Val Tyr Trp Ser Leu Pro Asp Met Met Gln Asp Pro 370 375 380 385			14950
gtg acc ttc cgg ccc tcc agc caa gtc agc aac tac ccc gtg gtg gga Val Thr Phe Arg Pro Ser Ser Gln Val Ser Asn Tyr Pro Val Val Gly 390 395 400			14998
gtc gag ctc ctg ccg gtg cac gcc aag agc ttt tac aac gag cag gcc Val Glu Leu Leu Pro Val His Ala Lys Ser Phe Tyr Asn Glu Gln Ala 405 410 415			15046
gtc tac tcg cag ctc atc cgc cag tcc acc gcg ctc acg cac gtc ttc Val Tyr Ser Gln Leu Ile Arg Gln Ser Thr Ala Leu Thr His Val Phe 420 425 430			15094
aac cgc ttc ccc gag aac cag atc ctg gtg cgc ccg ccc gct ccg acc Asn Arg Phe Pro Glu Asn Gln Ile Leu Val Arg Pro Pro Ala Pro Thr 435 440 445			15142
att acc acc gtc agt gaa aac gtt ccc gcc ctc aca gat cac gga acc Ile Thr Thr Val Ser Glu Asn Val Pro Ala Leu Thr Asp His Gly Thr 450 455 460 465			15190
ctg ccg ctg cgc agc agt atc agt gga gtc cag cgc gtg acc atc act Leu Pro Leu Arg Ser Ser Ile Ser Gly Val Gln Arg Val Thr Ile Thr 470 475 480			15238
gac gcc cgg cga agg acc tgc ccc tac gtg cac aag gcc ctg ggc ata Asp Ala Arg Arg Arg Thr Cys Pro Tyr Val His Lys Ala Leu Gly Ile 485 490 495			15286
gtc gct ccc aaa gtg ctc tct agc cgc acc ttt taa caagcatgtc Val Ala Pro Lys Val Leu Ser Ser Arg Thr Phe 500 505			15332
cattctcatc tcgccccgaca acaacaccgg ctggggcctg cgctcggccg gcatgtacgg			15392
cggcgccaag cggcgctcca gcgagcacc cgtccgcgtc cgcggccact accgggcccc			15452
ctggggcgcc cacaagcgcg gcgtctccac gcgcaccacc gtcgacgacg ccatcgacgc			15512
cgctcgtggcc caggccagac gctaccgccg gcccaagtgc acggtggacg ccgtcatcga			15572
cagcgtggtg gccgacgcgc ggcgatacgc tcgacgcaag cggcgtctgc accgccgtgc			15632
ccgtcccacc gccgccatgc tggccgccag agcggctctg agacgcgcgc gccgcgtggg			15692
ccgccgagcc atgcgccgag ccgcggccaa cgccagcgcg ggtcgcgccc gtcgtcaggc			15752
cgcccggcag gccgccgcc ccatcgccaa cctggcccaa ccccgccggg gaaacgtgta			15812
ctgggtgcga gacgcgtcgg gcgtgcgcgt gccggtgcgc acccgcccc ctcggagtta			15872
gaagacaaaa agacggacga agactgagtt tccctgtcgt tgccagcatg agcaagcgca			15932

agttcaaaga agagctgctg gaggccctcg tgcccagat ctacggccc ggcgccgctg 15992  
ccgccgcggt ggcggacgtc aagcccgaag ttaagcccc cgcgctgaag cgggttaaaa 16052  
agcgggaaaa gaaagaggag aagcaggaag cagggttgct agacgtcgac gacggcgtgg 16112  
agttcgtgcg gtccttcgcg ccccgctgcc ggggtgcagt gcggggtcgc cgcgtaagc 16172  
tcgtcccgcg gccgggcac gtggtgtctt tccccccg cctgcgttcg gccacgcgcg 16232  
gcctgaagcg cgagtacgac gaggtctatg gcgacgaaga catcctggag caggccgccc 16292  
agcagctcgg ggagtttgct tacggcaagc gcggccgcta cggggagggtg gcgctggcgc 16352  
tggaccaggg caatcccacg cccagcctca agcccgtcac gctgcagcag gtgctgcccg 16412  
tgagcgcgtc gaccgagagc aagcggggca tcaagagga gatgggcgac ctgcagccca 16472  
ccatgcaact catggtgccc aaacggcaga agctggagga cgtgctggag aacatgaaag 16532  
tggatcccag catcgagccc gaagtgaaag tgcgacccat caaggaagtg gggccgggccc 16592  
taggcgtgca gacggtggac attcagatcc ccgtgcgcgc ccccccggt tctgccacca 16652  
ctacgacggc cgtggaggcc atggaaacgc agacggagct gcccgcggcc ttggcggcag 16712  
ccgccaccgc cgccgcggct acccgagaga tgggcatgca gaccgacccc tggtagcagt 16772  
tcgccggccc cgccgctcgt ccacgagccc gtcggtacgc ggcgaccacc tcccggctcc 16832  
ctgactacgt cttgcatcct tccatcacgc cgacgcccgg ctaccgcgga acgaccttcc 16892  
gccccggctg cgcgcgacc accaccgccc gtcgtcgac caccgcggc cgtcgcagcc 16952  
gtcgcgcact ggctcccac gcggttcgcc gcgtcgtccg ccgggggtcgc acgctgacct 17012  
tgcccaccgc gcgttaccac cccagcatcg tcatttaacc tgcgctgccg ttttgagat 17072  
ggctctgacg tgccgctttc gcttccccgt tcggcactac cgaggaagat ctcgccgtag 17132  
gactggtcta gcgggcagcg gtctccgacg ccgcccgcc gcggtgcacc ggcgcatgaa 17192  
gggcggcatt ctgcccgcgc tgatcccat tatcgccgc gccatcgggg cgatccccgg 17252  
cgtggcctcg gtggccttgc aagcagctcg caaaaattaa ataaagaagg cttgacactc 17312  
actgcctggt cctgactgtt tcatgcagac aagacatgga agacatcaat tttgcgtcgt 17372  
tggccccgcg gcacggctcg cggccgttca tgggcacctg gaacgagatc ggcaccagcc 17432  
agctcaacgg gggcgctttc agttggagca gcctgtggag cggcattaaa aactttgggt 17492  
ccacgattaa gacctatggc aacaaggcgt ggaacagtag cactggtcag atgctccgcg 17552  
ataagctgaa ggaccagaac ttccagcaga aagtggtaga cggctctggcc tcgggcatca 17612  
acgggggtggt ggacctggcc aaccaggcgg tgcaaacca gatcaaccag cgtctggaga 17672  
acagccgcca gccgcccg gcccgtgcag agcgtccgca ggtggaggag gtggaagtgg 17732  
aggagaagct gccgccctg gagacggtgt cgccggtggg cgtgcctagc aagggggaga 17792  
agcggccgcg gcccgagctc gaggagacct tagtgaccga gaccctggag ccgccctcgt 17852  
acgagcaggc cttgaaagag ggggccacgc cctgcccatt gaccggccc atcggaccca 17912  
tggcccgacc ggtctacggc aaggaacaca aagccgtgac gctagagctg cctccgcccg 17972

cgcccaccgt acccccgatg cccgggtccca ccctgggcac cgccgtgcct cgtcccgccg 18032

ccccgccggg cgccgtggcc acgcccgcgc gcccagatcg cggagccaac tggcagagca 18092

ctctgaacag catcgtgggc ctgggagtga aaagcctgaa acgccgccgg tgttactatt 18152

aaagccagct aaatacccat gtgtgttatg cgcctcctgt gtcacgccag aaaaagccag 18212

cçgagtgaçg ggtcacçgcc gccgccaaga gcgccgcttt caag atg gcc acc ccc 18268  
Met Ala Thr Pro  
510

tcg atg atg ccg cag tgg tct tac atg cac atc gcc ggg cag gac gcc 18316  
Ser Met Met Pro Gln Trp Ser Tyr Met His Ile Ala Gly Gln Asp Ala  
515 520 525

tcg gag tac ctg agc ccg ggc ctg gtg cag ttc gcc cgc gcc acc gac 18364  
Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala Arg Ala Thr Asp  
530 535 540

acg tac ttc agc ctg ggc aac aag ttt agg aac ccc acg gtg gcc ccc 18412  
Thr Tyr Phe Ser Leu Gly Asn Lys Phe Arg Asn Pro Thr Val Ala Pro  
545 550 555 560

acc cac gac gtg acg acg gac cgg tcc cag cgg ctg acg ctg cgg ttc 18460  
Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu Thr Leu Arg Phe  
565 570 575

gtg ccc gtc gac cgc gag gac acc gcg tac tcg tac aaa gtg cgc ttc 18508  
Val Pro Val Asp Arg Glu Asp Thr Ala Tyr Ser Tyr Lys Val Arg Phe  
580 585 590

acg ctg gcc gtg ggc gac aac cgc gtg ctg gac atg gcc agc acg tac 18556  
Thr Leu Ala Val Gly Asp Asn Arg Val Leu Asp Met Ala Ser Thr Tyr  
595 600 605

ttt gac atc cgc ggc gtg ttg gac cgc ggt ccc agc ttc aaa ccc tac 18604  
Phe Asp Ile Arg Gly Val Leu Asp Arg Gly Pro Ser Phe Lys Pro Tyr  
610 615 620

tcc ggc acc gcc tac aac tcc ctg gcc ccc aag ggc gcc ccc aac ccg 18652  
Ser Gly Thr Ala Tyr Asn Ser Leu Ala Pro Lys Gly Ala Pro Asn Pro  
625 630 635 640

tca gaa tgg aag ggc tca gac aac aaa att agt gta aga ggt cag gct 18700  
Ser Glu Trp Lys Gly Ser Asp Asn Lys Ile Ser Val Arg Gly Gln Ala  
645 650 655

ccg ttt ttt agt aca tcc att aca aag gat ggt att caa gtg gcc act 18748  
Pro Phe Phe Ser Thr Ser Ile Thr Lys Asp Gly Ile Gln Val Ala Thr  
660 665 670

gat act tct agc gga gct gtg tat gct aaa aag gaa tat cag cct gaa 18796  
Asp Thr Ser Ser Gly Ala Val Tyr Ala Lys Lys Glu Tyr Gln Pro Glu  
675 680 685

cca caa gta ggg caa gaa caa tgg aac agc gaa gcc agt gat agt gat 18844  
Pro Gln Val Gly Gln Glu Gln Trp Asn Ser Glu Ala Ser Asp Ser Asp  
690 695 700

aaa gta gct ggt agg att cta aaa gac aca aca ccc atg ttc cct tgt 18892  
Lys Val Ala Gly Arg Ile Leu Lys Asp Thr Thr Pro Met Phe Pro Cys  
705 710 715 720

tac ggt tcc tac gcc aag ccc aca aat gaa cag ggg ggg caa ggc act 18940  
Tyr Gly Ser Tyr Ala Lys Pro Thr Asn Glu Gln Gly Gly Gln Gly Thr  
725 730 735

aat act gta gat ctg cag ttc ttt gcc tct tca tcg gct acc tct acg 18988

Asn	Thr	Val	Asp 740	Leu	Gln	Phe	Phe	Ala 745	Ser	Ser	Ser	Ala	Thr 750	Ser	Thr		
cct	aaa	gcc	gta	ctc	tat	gcc	gag	gac	gtg	gca	ata	gaa	gca	cca	gac	19036	
Pro	Lys	Ala 755	Val	Leu	Tyr	Ala	Glu 760	Asp	Val	Ala	Ile	Glu 765	Ala	Pro	Asp		
acc	cat	ttg	gtg	tac	aaa	ccg	gca	gtt	aca	acc	acg	acc	act	agt	tcc	19084	
Thr	His 770	Leu	Val	Tyr	Lys	Pro 775	Ala	Val	Thr	Thr	Thr	Thr	Thr	Ser	Ser		
caa	gac	ctg	cta	act	cag	cag	gct	gct	ccc	aac	cga	ccc	aac	tac	att	19132	
Gln	Asp	Leu	Leu	Thr	Gln 790	Gln	Ala	Ala	Pro	Asn 795	Arg	Pro	Asn	Tyr	Ile 800		
ggc	ttc	agg	gat	aat	ttt	atc	ggc	ctc	atg	tat	tac	aac	tcc	act	ggc	19180	
Gly	Phe	Arg	Asp	Asn 805	Phe	Ile	Gly	Leu	Met 810	Tyr	Tyr	Asn	Ser	Thr 815	Gly		
aat	atg	ggc	gtt	ttg	gca	ggg	caa	gct	tct	cag	cta	aac	gcg	gtg	gtt	19228	
Asn	Met	Gly	Val 820	Leu	Ala	Gly	Gln 825	Ala	Ser	Gln	Leu	Asn	Ala 830	Val	Val		
gac	ttg	caa	gac	aga	aac	acc	gag	ctg	tcc	tac	cag	ctc	atg	ctt	gat	19276	
Asp	Leu	Gln 835	Asp	Arg	Asn	Thr	Glu 840	Leu	Ser	Tyr	Gln	Leu 845	Met	Leu	Asp		
gct	ttg	ggc	gac	cgc	agt	cgt	tac	ttc	tcc	atg	tgg	aac	cag	gcc	gta	19324	
Ala	Leu	Gly	Asp	Arg	Ser	Arg 855	Tyr	Phe	Ser	Met	Trp 860	Asn	Gln	Ala	Val		
gac	agc	tat	gac	cct	gat	gtc	aga	att	att	gaa	aat	cat	ggc	gtg	gag	19372	
Asp	Ser	Tyr	Asp	Pro	Asp 870	Val	Arg	Ile	Ile	Glu 875	Asn	His	Gly	Val	Glu 880		
gat	gag	ctg	cca	aac	tac	tgt	ttc	ccg	cta	gga	ggg	tcg	cta	gta	act	19420	
Asp	Glu	Leu	Pro	Asn 885	Tyr	Cys	Phe	Pro	Leu 890	Gly	Gly	Ser	Leu	Val 895	Thr		
gaa	act	tat	aca	ggc	cta	tca	ccc	caa	aac	gga	agt	aac	acg	tgg	aca	19468	
Glu	Thr	Tyr	Thr 900	Gly	Leu	Ser	Pro	Gln 905	Asn	Gly	Ser	Asn	Thr 910	Trp	Thr		
acc	gac	agc	acc	acc	tat	gca	act	aga	ggg	gtg	gaa	atc	ggc	tct	ggc	19516	
Thr	Asp	Ser 915	Thr	Thr	Tyr	Ala	Thr 920	Arg	Gly	Val	Glu	Ile 925	Gly	Ser	Gly		
aac	atg	ttc	gcc	atg	gaa	att	aat	ttg	gcg	gcc	aat	cta	tgg	agg	agt	19564	
Asn	Met 930	Phe	Ala	Met	Glu	Ile 935	Asn	Leu	Ala	Ala	Asn 940	Leu	Trp	Arg	Ser		
ttc	ctg	tac	tcc	aac	gtg	gcc	ctg	tac	ctg	ccc	gac	gag	tac	aag	ctc	19612	
Phe	Leu	Tyr	Ser	Asn	Val 950	Ala	Leu	Tyr	Leu	Pro 955	Asp	Glu	Tyr	Lys	Leu 960		
acc	ccc	gac	aac	atc	acc	ctc	ccc	gac	aac	aaa	aac	act	tac	gac	tac	19660	
Thr	Pro	Asp	Asn	Ile 965	Thr	Leu	Pro	Asp	Asn 970	Lys	Asn	Thr	Tyr	Asp 975	Tyr		
atg	aac	ggc	cgc	gtg	gcc	gcc	ccc	agc	tcc	ctc	gac	acc	tac	gtc	aac	19708	
Met	Asn	Gly	Arg 980	Val	Ala	Ala	Pro	Ser 985	Ser	Leu	Asp	Thr	Tyr 990	Val	Asn		
atc	ggg	gcg	cgc	tgg	tcc	ccc	gac	ccc	atg	gac	aac	gtc	aac	ccc	ttc	19756	
Ile	Gly	Ala 995	Arg	Trp	Ser	Pro	Asp 1000	Pro	Met	Asp	Asn	Val 1005	Asn	Pro	Phe		
aac	cac	cac	cgc	aac	gcg	gga	ctg	cgc	tac	cgc	tcc	atg	ctg	ctg		19801	
Asn	His	His	Arg	Asn	Ala	Gly	Leu	Arg	Tyr	Arg	Ser	Met	Leu	Leu			

1010	1015	1020	
ggc aac ggc cgc tac gta ccc ttc cac atc caa gtg ccc cag aaa 19846 Gly Asn Gly Arg Tyr Val Pro Phe His Ile Gln Val Pro Gln Lys 1025 1030 1035			
ttc ttc gcc atc aaa aac ctc ctg ctc ctc ccc ggg tcc tac acc 19891 Phe Phe Ala Ile Lys Asn Leu Leu Leu Leu Pro Gly Ser Tyr Thr 1040 1045 1050			
tac gag tgg aac ttc cgc aag gac gtc aac atg atc ctc cag agc 19936 Tyr Glu Trp Asn Phe Arg Lys Asp Val Asn Met Ile Leu Gln Ser 1055 1060 1065			
agc ctg ggt aac gac ctc cgc gtc gac ggg gcc agc gtc agg ttc 19981 Ser Leu Gly Asn Asp Leu Arg Val Asp Gly Ala Ser Val Arg Phe 1070 1075 1080			
gac agc atc aac ctg tac gcc aac ttc ttc ccc atg gcc cac aac 20026 Asp Ser Ile Asn Leu Tyr Ala Asn Phe Phe Pro Met Ala His Asn 1085 1090 1095			
acc gcc tcc acg ctc gag gcc atg ctg cgc aac gac acc aac gac 20071 Thr Ala Ser Thr Leu Glu Ala Met Leu Arg Asn Asp Thr Asn Asp 1100 1105 1110			
cag tcg ttc aac gac tac ctc tgc gct gcc aac atg ctc tac ccc 20116 Gln Ser Phe Asn Asp Tyr Leu Cys Ala Ala Asn Met Leu Tyr Pro 1115 1120 1125			
atc ccc gcc aac gcc acc agc gtg ccc atc tcc att ccc tcg cgg 20161 Ile Pro Ala Asn Ala Thr Ser Val Pro Ile Ser Ile Pro Ser Arg 1130 1135 1140			
aac tgg gcc gcc ttc cgg ggc tgg agc ttc acc cgg ctc aag acc 20206 Asn Trp Ala Ala Phe Arg Gly Trp Ser Phe Thr Arg Leu Lys Thr 1145 1150 1155			
aag gag acc ccc tct ctg ggc tcc ggc ttc gat ccc tac ttc acc 20251 Lys Glu Thr Pro Ser Leu Gly Ser Gly Phe Asp Pro Tyr Phe Thr 1160 1165 1170			
tac tcg ggc tcc atc ccc tac ctg gac ggc acc ttc tac ctc aac 20296 Tyr Ser Gly Ser Ile Pro Tyr Leu Asp Gly Thr Phe Tyr Leu Asn 1175 1180 1185			
cac act ttc aag aag gtc tcc atc atg ttc gac tcc tcc gtc agc 20341 His Thr Phe Lys Lys Val Ser Ile Met Phe Asp Ser Ser Val Ser 1190 1195 1200			
tgg ccc ggc aac gac cgc ctg ctg acc ccc aac gag ttc gag atc 20386 Trp Pro Gly Asn Asp Arg Leu Leu Thr Pro Asn Glu Phe Glu Ile 1205 1210 1215			
aag cgc acc gtg gac ggg gaa ggg tac aac gtg gcc cag tgc aac 20431 Lys Arg Thr Val Asp Gly Glu Gly Tyr Asn Val Ala Gln Cys Asn 1220 1225 1230			
atg acc aag gac tgg ttc ctc atc cag atg ctc agc cac tac aac 20476 Met Thr Lys Asp Trp Phe Leu Ile Gln Met Leu Ser His Tyr Asn 1235 1240 1245			
atc ggc tac cag ggc ttc tac gtg ccc gag ggc tac aag gac agg 20521 Ile Gly Tyr Gln Gly Phe Tyr Val Pro Glu Gly Tyr Lys Asp Arg 1250 1255 1260			
atg tac tct ttc ttc cgc aac ttc caa ccc atg agc cgc cag gtg 20566 Met Tyr Ser Phe Phe Arg Asn Phe Gln Pro Met Ser Arg Gln Val 1265 1270 1275			

gtc Val	gac Asp	acc Thr	acc Thr	acc Thr	tac Tyr	acc Thr	gac Asp	tac Tyr	aaa Lys	aac Asn	gtc Val	acc Thr	ctc Leu	ccc Pro	20611
1280	1280					1285					1290				
ttc Phe	cag Gln	cac His	aac Asn	aac Asn	tgc Ser	ggg Gly	ttc Phe	gtg Val	gga Gly	tac Tyr	atg Met	ggc Gly	ccc Pro	acc Thr	20656
1295	1295					1300					1305				
atg Met	cgc Arg	gag Glu	ggg Gly	cag Gln	gcc Ala	tac Tyr	ccc Pro	gcc Ala	aac Asn	tac Tyr	ccc Pro	tac Tyr	ccc Pro	ctg Leu	20701
1310	1310					1315					1320				
atc Ile	ggc Gly	aag Lys	acc Thr	gcc Ala	gtg Val	ccc Pro	agc Ser	ctc Leu	acg Thr	cag Gln	aaa Lys	aag Lys	ttc Phe	ctc Leu	20746
1325	1325					1330					1335				
tgc Cys	gac Asp	cgc Arg	acc Thr	atg Met	tgg Trp	cgc Arg	atc Ile	ccc Pro	ttc Phe	tcc Ser	agt Ser	aac Asn	ttc Phe	atg Met	20791
1340	1340					1345					1350				
tcc Ser	atg Met	ggg Gly	gcg Ala	ctc Leu	acc Thr	gac Asp	ctg Leu	ggg Gly	cag Gln	aac Asn	atg Met	ctg Leu	tac Tyr	gcc Ala	20836
1355	1355					1360					1365				
aac Asn	tcc Ser	gcc Ala	cac His	gcc Ala	ctc Leu	gac Asp	atg Met	acc Thr	ttc Phe	gag Glu	gtg Val	gac Asp	ccc Pro	atg Met	20881
1370	1370					1375					1380				
gat Asp	gag Glu	ccc Pro	acg Thr	ctt Leu	ctc Leu	tat Tyr	gtt Val	ctg Leu	ttc Phe	gaa Glu	gtg Val	ttc Phe	gac Asp	gtc Val	20926
1385	1385					1390					1395				
gtg Val	cgc Arg	atc Ile	cac His	cag Gln	ccg Pro	cac His	cgc Arg	ggc Gly	gtc Val	atc Ile	gag Glu	gcc Ala	gtc Val	tac Tyr	20971
1400	1400					1405					1410				
ctg Leu	cgc Arg	acg Thr	ccg Pro	ttc Phe	tgc Ser	gcc Ala	ggt Gly	aac Asn	gcc Ala	acc Thr	acc Thr	taa	ggagggggcc		21020
1415	1415					1420					1425				
gccgacggat	gggctccagc	gagccggagc	tggtcgccat	cgcgcgcgac	ctgggctgcg										21080
ggccctactt	cctgggcacc	tttgacaaac	gcttcccggg	cttcgtggcg	ccgcacaagc										21140
tggcctgcmc	catcgtcaac	accgccggac	gagagaccgg	cggcgtccac	tggttgggcc										21200
tggcctggaa	ccccgcgac	cgaacctgct	acctcttcga	ccccttcggc	ttctcggacg										21260
acaggctcag	gcagatctac	cagttcgagt	acgaaggcct	gctccggcgc	agcggcctcg										21320
cctccacccc	cgaccactgc	gtcaccctcg	tcaagtccac	ccagaccgtc	cagggggccc										21380
gctcggccgc	ctgcggcctc	ttctgctgca	tggtcctgca	cgccttcgtg	cgctggcccg										21440
cctcccccac	ggacggcaac	cccaccatgg	acctccttac	gggcgttccc	aacagcatgc										21500
ttcagagtcc	ccaggctcag	cccaccctcc	accgcaacca	ggaggaactc	tacgccttcc										21560
tggtcgggca	ctccccctac	tttcgccgcc	accgcgagcg	catagaaaag	gccaccgcgt										21620
ttgacaaaat	gaacgactag	atcttctgtg	aaaaacactc	aataaagcct	ttattgggtc										21680
accacacgtg	cacgcatgca	gactttttat	ttaaaagggc	tccgcctcct	cgtcgccgtg										21740
gctgggtggg	agggagacgt	tgcgatactg	caggcgggag	ctccatctga	actcgggaat										21800
cagcagcttg	ggcagggggc	cctcgacgtt	ctcgctccac	agcttgcgca	ccagctgcag										21860

ggcgcccagc aggtcgggcg cggagatctt gaagtcgcag ttggggccct ggttgccgcg 21920  
ggagttgcgg tacaccgggt tggcgactg gaacaccagc acgctggggt gctcgatgct 21980  
ggccagcgcc gtcttgctcg tcacctcgtc gccgcgcagg gactccgcgt tgctcagcgc 22040  
gaaggcggtc agcttgacac gctgccgacc cagcacgggc accccgctcg gctggttcag 22100  
gcagtcgcag cgcatagcc a tcagcagccg cttctgccg tgctgcatct tcggatagtc 22160  
ggctcgcatg aaggcctcca tctgccgga ggccgtctgc gccttgctgc cctccgagaa 22220  
gaacagccc caggacttgc cggagaacac gttgttgccg cagctcacgt cttccacgca 22280  
gcagcgcgcg tcgtcgttct tcagctgcac cacgtgcgg cccagcggt tctgcaccac 22340  
cttggctcttg ccgggatgtt cttcagggc ccgctggccg ttctcgctgg tcacgtccat 22400  
ctccaccacc tgctccttct ggatcatctc cagcccgtgg tagcagcgca gcacgccctc 22460  
ctgctcggtg caccgctgca gccagacggc gcagccggtc ggctccagct gttgaggttt 22520  
caccgcgcg taggtctcca cgtacgccg caggaagcgg cccatcatct ccacaaagg 22580  
cttctgaccg gtgaaggcca gctgcagccc gcgatgtcc tcgttgagcc acgtctgaca 22640  
gatcttgccg tacaccttgc cctgctcggg cagaaacttg aaagcggcct tctcctcggg 22700  
ctccacgtgg tacttctcca tcagcgccga catcagctcc atgcccttct cccaggccga 22760  
caccagcggc tccgcgcggg ggttcaccac cgccatgcct cgggaagtgc cggggcgctc 22820  
atcttcctcc tcctcctcgt cttcttcttg aggcggcggg ggcggcagtt gtctcacgaa 22880  
tctcttgccg ttggccttct ggacgatctc cagccggggg tgggtgaacc cgtgggccac 22940  
caccacttcg tcctcttct cttcgtgtc gggcacgact tcgggagagg gaggcggcg 23000  
aggaaccggg gcggccactg cggccatcgc ggcgttcttg cgcgccttct tggggggcag 23060  
aggcggcgtc tcgcgctccg ggctggtctc ttgcaggtag ggcgtgatgg tgtgggagg 23120  
ggggcgctct ggctgacggc cggccatgct gatgcttgac tcctaggcga aaagatggag 23180  
gaggatctta gacagccgca gcccgtctcc gaaaccttaa ccaccccg ctttgaggtc 23240  
ggcgccggcg agctagacat gcaacgggag gaggaggagg acgtgcgagt ggagcaagac 23300  
ccgggctacg tgacgccgcc cgaggacggc gaggagccgc aggcaccggc gccaacgctc 23360  
agcgaagccg actacctggg aggggaggac gacgtgctgc tgaagcacct ggcgcggcag 23420  
agcaccatcg tgcaggaggc cctcaaggag cgcgaggagg tcccgtgac ggtggaggag 23480  
ctcagccggg cctacgaagc caacctcttc tcgccgcggg tgcccccaa gaagcaggcc 23540  
aacggcacct gcgagcccaa ccccgccctc aacttctacc ccgtctttgc ggtgcccgag 23600  
gcgctggcca cctatcacat cttcttcaag aaccagcgca tccccctctc gtgccgcgcc 23660  
aaccgcacc gcgccgacc cctcctgcat ctccgagccg gcgccgcat acctgagatc 23720  
gcctccctgg aggaagtccc caagatcttc gaaggctctg gcaaggacga gaagcgcgcg 23780  
gcaaacgctc tggaaaagaa cgagagcgag ggtcagaacg tgctggtcga gctggaaggc 23840  
gacaacgcgc gtctggccgt gctcaaacgc accatcgaag tctccactt cgctacccc 23900  
gcgctcaacc ttcccccaa ggtcatgcgc tcggtcatgg atcagctgct catcaagcgc 23960

gccgagcccc tcgagaacga ctccgaggtg gattccgagg acggaacc cgtggtctcg 24020  
gacgaggagc tcgcgcgctg gctgggcacg caggaccccc ccgagttgca agagcggcgc 24080  
aagatgatga tggcgccgt gctggtcacc gccgagctcg agtgcctgca gcgcttcttc 24140  
gccgaccccc agaccctgcg caaggctcag gagtccctgc actacgcctt ccgccacggc 24200  
tacgtgcgcc aggcctgcaa gatctecaac gtggagctta gcaacctggt ctctacatg 24260  
ggcatcctgc acgagaaccg cctcgggcag aacgtcctcc actgcaccct gaccggggag 24320  
gcccgcgcg actacgtccg cgactgcac tacctctttc tcaccctcac ctggcagacc 24380  
gccatggggg tctggcagca gtgtctggag gagcgcaacc ttcgcgagct cgacaagcta 24440  
ctgagccgcg agcgccgcga gctctggacg gctttcagcg agcgaccgc cgctgccgt 24500  
ctggccgacc tcatcttccc cgagcgactc aggcacccc tccagaacgg cctgcccagc 24560  
tttgtcagcc agagcatgct gcaaaacttt cgctccttca tcctggagcg atccggcatc 24620  
ttgcccgcga tgagctgcg cctgccctcc gatttcgtcc cctctatta tcgcgagtg 24680  
ccccgcgcg tctggagcca ctgctacctg ctgctctgg ccaactacct cgcccaccac 24740  
tcggacctca tggaagactc cagcggcgag gggctgctgg agtgccactg ccgctgcaac 24800  
ctctgcaccc cccaccgctc gctggtctgc aacaccgagc tgctcagcga gacgcaagt 24860  
atcggtacct ttgagatcca gggaccagag gggccggagg gtgcttccaa cctcaagctc 24920  
agcccggcgc tctggacttc cgctacctg cgcaatttta tccccgagga ctatcacgcc 24980  
caccagatcc aattctacga agaccaatcg cgacccccca aagccccct cacggcctgt 25040  
gtcatcacc agagccagat tctggcccaa ttgcaagcca tccagcaggc ccgccaagag 25100  
ttctctctga aaaaggtca cggggtctat ctggaccccc agaccggcga ggaactcaac 25160  
acccgtcac cctccgcgc cgcttcgtgc cggcgaga accatgccgc ccaaaggga 25220  
caagcaggcc atcgcccagc ggcgggcca gaagcagcaa gagctccagg agcagtggga 25280  
cgaggagtcc tgggacagcc aggcggagga agtctcagac gaggaggagg acatggagag 25340  
ctgggacagc ctgacgagg aggaggaggc cgaggagcta gaggacgagc ctctcagga 25400  
ggaagagccc agcagcgccg cggcaccatc ggcttccaaa gaagcggctc ggaagccggc 25460  
ggccccgaag cagcagaagc agcaacagcc gccaccgtcg ccccgacgc caccaccagg 25520  
ctcactcaaa gccagccgta ggtgggacgc ggtgtccatc gcgggatcg ccaaagcccc 25580  
agtcggtgta ccaccgggc ggtcgcgcg ggggtactgt tcctggcgcc ccacaagag 25640  
caagatcgtc gcctgcctcc agcactgccg gggcaacatc tccttcgcgc ggcgtactt 25700  
gtcttccac gacggggtg cggtgccgc caacgtctc tactattacc gtcattctta 25760  
cagccctac gagacagaag gcccggcctc cgctgaagac cagccgccag acggtctcct 25820  
ccgccatcg gaccggccag gactcggccg ccacgcagga gctcagaaaa cgcatctttc 25880  
ccaccctgta tgctatcttc cagcagagcc cgggcccagca gctggaactg aaagtaaaaa 25940  
accgctccct gcgttcgctc acccgagct gtctgtacca caggaggga gaccaactgc 26000

agcgacgct cgaggacgcc gaggcactgt tcaataaata ctgctcgggtg tctcttaagg 26060  
 actgaaagcc cgcgcttttt cagaggctca ttacgtcatc atcatcatga gcaaggacat 26120  
 tcccacgcct tacatgtgga gctaccagcc gcagatggga ctggcggccg gcgcctccca 26180  
 ggattactcc agtcgcatga actggctgag tgccggcccc cacatgatcg ggcggtcaa 26240  
 tgggattcgt gccacccgca atcagatact gctggaacag gccgccctca cctccacccc 26300  
 gcgacgtcag ctgaacccgc ccgcttgagg cgccgcccag gtgtaccagg aaaaccccg 26360  
 cccgaccaca gtcctcctgc cacgcgacgc ggaggccgaa gtccagatga ctaactccg 26420  
 ggcgaatta gcgggaggcg cccgccacgt cgtcgtccc gggtacagag gtcggcccg 26480  
 accctacccc tccggcccta taaagaggct gatcattcga ggccgaggta tccagctcaa 26540  
 cgacgaggtg gtgagctcct cgaccggtct tcggcccgac ggagtcttcc agcttgagg 26600  
 cgccggccgc tcttccttca ccactcgcca ggcctacctg acgctccaga gctcttcctc 26660  
 ccagcctcgc tccggcggca tcggcaccct ccagttcgtg gaggagtctg tgccctcgg 26720  
 ctacttcaac ccgttctccg gctctcccg ccgtacccg gacagcttca tccccaaacta 26780  
 cgacgcggtg agcgaatccg tggacggcta cgattgatga ccgatggtgc ggccgtaact 26840  
 gcgcggcggc aacatctgca tcaactgccat cgtcctcggg gcttcgcccg ggaggcctgt 26900  
 gagttcatct acttccagct cgccccggac cagcttcagg gcccttcgca cggcgtaag 26960  
 ctcgtgatag aggaagagct cgagagtagc tgcttcgct gttttacctc gcgccccatc 27020  
 ctagtgcaga gggaacgcgg taggaccacc ctcaccctct actgcatctg tgactccccg 27080  
 gaattacatg aagatctgtg ttgccttcta tgtgccgaac aataaccct cttgtaacta 27140  
 cctacatcca caataacca gaatttgaa actccttctg tttgtttgca g atg aaa 27197  
 Met Lys  
  
 cgc gcc cgc ctc gac gac gac ttc aac ccc gtc tac ccc tat gac 27242  
 Arg Ala Arg Leu Asp Asp Asp Phe Asn Pro Val Tyr Pro Tyr Asp  
 1430 1435 1440  
 act ccc aac gct ccc tct gtt ccc ttc atc act cct ccc ttc gtc 27287  
 Thr Pro Asn Ala Pro Ser Val Pro Phe Ile Thr Pro Pro Phe Val  
 1445 1450 1455  
 tcc tcg gac ggc ttg caa gaa aaa cca ccc gga atg ctc agt ctc 27332  
 Ser Ser Asp Gly Leu Gln Glu Lys Pro Pro Gly Met Leu Ser Leu  
 1460 1465 1470  
 aac tac caa gat cct att acc acc caa aac ggc gca tta act cta 27377  
 Asn Tyr Gln Asp Pro Ile Thr Thr Gln Asn Gly Ala Leu Thr Leu  
 1475 1480 1485  
 aag ctt ggc agc gga ctg aac ata aac caa gat ggc gaa ctt acc 27422  
 Lys Leu Gly Ser Gly Leu Asn Ile Asn Gln Asp Gly Glu Leu Thr  
 1490 1495 1500  
 tca gac gcc agc gtt ctc gtc act ccc ccc att aca aaa gcc aac 27467  
 Ser Asp Ala Ser Val Leu Val Thr Pro Pro Ile Thr Lys Ala Asn  
 1505 1510 1515  
 aac aca ata ggc cta gcc ttc aat gca cct ctt acc ttg caa agc 27512  
 Asn Thr Ile Gly Leu Ala Phe Asn Ala Pro Leu Thr Leu Gln Ser  
 1520 1525 1530

gat act tta	aat ctt gct tgt aac	gcc cca ctt acc	gtg caa gac	27557
Asp Thr Leu	Asn Leu Ala Cys Asn	Ala Pro Leu Thr	Val Gln Asp	
1535	1540		1545	
aat agg ttg	gga ata aca tac aac	tct ccc ctc acc	ttg caa aac	27602
Asn Arg Leu	Gly Ile Thr Tyr Asn	Ser Pro Leu Thr	Leu Gln Asn	
1550	1555		1560	
agc gaa ctt	gcc cta gcg gtc acc	ccg cct ctt gac	act gcc aat	27647
Ser Glu Leu	Ala Leu Ala Val Thr	Pro Pro Leu Asp	Thr Ala Asn	
1565	1570		1575	
aac aca ctt	gcg ctt aaa acc gcc	cgg cct ata att	aca aac tct	27692
Asn Thr Leu	Ala Leu Lys Thr Ala	Arg Pro Ile Ile Thr	Asn Ser	
1580	1585		1590	
aat aac gag	ctt aca ctc tcc gct	gat gct ccc cta	aac acc agc	27737
Asn Asn Glu	Leu Thr Leu Ser Ala	Asp Ala Pro Leu	Asn Thr Ser	
1595	1600		1605	
acg ggt acc	ctc cgc cta caa agc	gca gca cca ctg	ggg cta gtt	27782
Thr Gly Thr	Leu Arg Leu Gln Ser	Ala Ala Pro Leu	Gly Leu Val	
1610	1615		1620	
gac caa acc	ctg cga gtg ctt ttt	tct aac cca ctc	tac ttg caa	27827
Asp Gln Thr	Leu Arg Val Leu Phe	Ser Asn Pro Leu	Tyr Leu Gln	
1625	1630		1635	
aac aac ttt	ctc tca cta gcc att	gaa cgc cca ttg	gct tta act	27872
Asn Asn Phe	Leu Ser Leu Ala Ile	Glu Arg Pro Leu	Ala Leu Thr	
1640	1645		1650	
acc act ggt	tct atg gct atg cag	att tcc caa cca	tta aaa gtg	27917
Thr Thr Gly	Ser Met Ala Met Gln	Ile Ser Gln Pro	Leu Lys Val	
1655	1660		1665	
gaa gac gga	agc tta agc ttg agc	att gaa agc cct	cta aat cta	27962
Glu Asp Gly	Ser Leu Ser Leu Ser	Ile Glu Ser Pro	Leu Asn Leu	
1670	1675		1680	
aaa aac gga	aat ctt act tta gga	acc caa agt ccc	cta act gtc	28007
Lys Asn Gly	Asn Leu Thr Leu Gly	Thr Gln Ser Pro	Leu Thr Val	
1685	1690		1695	
act ggt aac	aac ctc agc ctt aca	aca aca gcc cca	tta acg gtt	28052
Thr Gly Asn	Asn Leu Ser Leu Thr	Thr Thr Ala Pro	Leu Thr Val	
1700	1705		1710	
cag aac aac	gct cta gcc ctc tca	gtg tta ctg ccg	ctt aga cta	28097
Gln Asn Asn	Ala Leu Ala Leu Ser	Val Leu Leu Pro	Leu Arg Leu	
1715	1720		1725	
ttt aat aac	acc tca ctg gga gtg	gca ttc aac cca	ccc att tct	28142
Phe Asn Asn	Thr Ser Leu Gly Val	Ala Phe Asn Pro	Pro Ile Ser	
1730	1735		1740	
tca gca aac	aac ggg ctg tct ctt	gac att gga aat	ggc ctt aca	28187
Ser Ala Asn	Asn Gly Leu Ser Leu	Asp Ile Gly Asn	Gly Leu Thr	
1745	1750		1755	
ctg caa tac	aac agg ctc gta gtg	aac att ggc ggc	ggg cta cag	28232
Leu Gln Tyr	Asn Arg Leu Val Val	Asn Ile Gly Gly	Gly Leu Gln	
1760	1765		1770	
ttt aac aac	ggt gct att acc gct	tcc ata aat gca gct	ctg ccg	28277
Phe Asn Asn	Gly Ala Ile Thr Ala	Ser Ile Asn Ala	Leu Pro	
1775	1780		1785	

ttg cag tat tcc aat aac cag ctt tct ctt aat att gga ggc ggg	28322
Leu Gln Tyr Ser Asn Asn Gln Leu Ser Leu Asn Ile Gly Gly Gly	
1790 1795 1800	
ctg cga tac aac ggc act tac aaa aat tta gcc gtc aaa acc gac	28367
Leu Arg Tyr Asn Gly Thr Tyr Lys Asn Leu Ala Val Lys Thr Asp	
1805 1810 1815	
tct ttt agg ggt ctt gaa att gac agt aat cag ttc ctg gtg cca	28412
Ser Phe Arg Gly Leu Glu Ile Asp Ser Asn Gln Phe Leu Val Pro	
1820 1825 1830	
aga ctg ggt tct ggt cta aag ttt gat caa tat ggg tac att agc	28457
Arg Leu Gly Ser Gly Leu Lys Phe Asp Gln Tyr Gly Tyr Ile Ser	
1835 1840 1845	
gtc ata cct cca act gtt acg cca aca aca ctt tgg act aca gca	28502
Val Ile Pro Pro Thr Val Thr Pro Thr Thr Leu Trp Thr Thr Ala	
1850 1855 1860	
gac cct tct ccc aac gct act ttt tac gac agc tta gat gct aag	28547
Asp Pro Ser Pro Asn Ala Thr Phe Tyr Asp Ser Leu Asp Ala Lys	
1865 1870 1875	
gta tgg ctg gcc tta gta aaa tgc aac ggc atg gtt aat gga acc	28592
Val Trp Leu Ala Leu Val Lys Cys Asn Gly Met Val Asn Gly Thr	
1880 1885 1890	
ata gcc ata aag gct tta aaa ggt act ctg ctc caa cct acg gct	28637
Ile Ala Ile Lys Ala Leu Lys Gly Thr Leu Leu Gln Pro Thr Ala	
1895 1900 1905	
agt ttt att tct ttt gtt atg tat ttt tac agc aat ggc acc aga	28682
Ser Phe Ile Ser Phe Val Met Tyr Phe Tyr Ser Asn Gly Thr Arg	
1910 1915 1920	
aga act aac tac ccc acg ttt gaa aat gaa ggc ata cta gct agt	28727
Arg Thr Asn Tyr Pro Thr Phe Glu Asn Glu Gly Ile Leu Ala Ser	
1925 1930 1935	
agt gct aca tgg ggt tat cgt caa gga aac tcg gca aac acc aac	28772
Ser Ala Thr Trp Gly Tyr Arg Gln Gly Asn Ser Ala Asn Thr Asn	
1940 1945 1950	
gtc acc agt gcc gtt gaa ttt atg cct agc tcc aca aga tat cct	28817
Val Thr Ser Ala Val Glu Phe Met Pro Ser Ser Thr Arg Tyr Pro	
1955 1960 1965	
gtt aac aag ggt act gag gtt cag aac atg gaa ctc acc tac act	28862
Val Asn Lys Gly Thr Glu Val Gln Asn Met Glu Leu Thr Tyr Thr	
1970 1975 1980	
ttc ttg cag gga gac ccc act atg gcc ata tca ttt caa gct att	28907
Phe Leu Gln Gly Asp Pro Thr Met Ala Ile Ser Phe Gln Ala Ile	
1985 1990 1995	
tat aac cat gct ttg gaa ggt tac tct tta aaa ttt acc tgg cga	28952
Tyr Asn His Ala Leu Glu Gly Tyr Ser Leu Lys Phe Thr Trp Arg	
2000 2005 2010	
gtt cgc aac agg gaa cgc ttt gat atc ccc tgc tgt tct ttt tct	28997
Val Arg Asn Arg Glu Arg Phe Asp Ile Pro Cys Cys Ser Phe Ser	
2015 2020 2025	
tac ata acg gaa gaa taa acactgtttt tcttttcaat gtttttattc	29045
Tyr Ile Thr Glu Glu	
2030	
tgctttttta cacagttcga accgtcagac tccctccccc cttccacttc acccggtaca	29105

cctcccgtc cccctggatc gctgctaca actgcagttt ggtgttcaga cacgggttct 29165  
taggtgacag tatccacacg gcctctttgc cggccaggcg ctggtccgta atgctcacia 29225  
atccctccga cacgtcctcc agacacacgg tggaatccaa ggcgcccgtc tacaaaacia 29285  
acacagtcac gctctccacg ggttctctcc tcggtcgtac tgcgccagcg tgaacgggag 29345  
atggtgctcc atcaggggtc gcagcaaccg ctgtcggcgc ggctcaccca ggctccggcg 29405  
aaaagcggcc cgtctgggag tgctattcaa aaaacgcacc gcctttatca acagtctcct 29465  
cgtgaggcgg gcgcagcagc gcacctggat ctctgtcagg tctttacaat aggtacagcc 29525  
catcaccacc atgttggtta aaatcccaaa gctaaacacg ctccacccaa atgacatgaa 29585  
ttccagcacc gccgaggcgt ggccatcata caatatgcgg aggtaaatca ggtgccggcc 29645  
cctaatacaa acgtcccca tatacatcac ctcttaggc agttgataat taaccacctc 29705  
ccggtaccag ggaaacctca cgtttactaa agcccaaac accaacattt taaaccagtt 29765  
agccagcacc accctcccg ccttacactg cagcgacccc ggctgtttac atgacagtg 29825  
aatcacccac ctctcatacc ccctaatac ctggcgtggc tccacatcta tagtagcaca 29885  
gcacacgcac accctcatgt aatgtttcat cacaatctt tccaagggg ttagtatcat 29945  
gtcccagggt acgggccact cctgcagcac ggtgaaagg acgcaggcgg gaacagtcct 30005  
cacctcggac acataatgca tattcagatg ttcacactct aaaaccccgg ggcttcctc 30065  
caacgcagcc actggcaagt tctcagaggg tggtgtaagg cgggtggtgct gatagggact 30125  
caatctgtgt cgacaccgtc tgcgcgttg catcgtagac caacgcttg cgacaccgct 30185  
cgtacttcgc ccaagaaaa cgggtgagc gccaacacac ttccgcgtac cgtgggttcc 30245  
gcactcgagc tcgctcagtt ctcaacgcac aatgcagcca ttcctgtaac ccacacaaca 30305  
gtcgtcggc ttcaaagag atgtgcacct cgtatcttat aacgtcccga tatatatcca 30365  
agcaggcagt cagggccact tgcaaccagt gcacgcaggc ggactgatcg cgacacactg 30425  
gagggtggag gagagacgga agaggcatgt tactccagac ggtcgaaaag cggtacaaag 30485  
tgcagatcgc gaagatggca gcgatccccg ccgctacgct ggtgatagat cacagccagg 30545  
tcaaacataa tgcggttttc caaatgacct attaccgct ccaccagagc cgccacgcgc 30605  
acttccagaa acaccagcac ggctacggca ttctcctcaa aatcttcaa cattaagctg 30665  
catgattgaa tcaccccaa ataattctcc tcttccatt ctgcacaaat ttgagtaaaa 30725  
acctctcgca gattagctcc gtggcgttca aaaaggctac ttagagcgcc ctccaccgcc 30785  
atgcgcaagc acacctcat gattgaaaaa tgccagtctc ctgaaccacc tgcagttgat 30845  
ttaaaagacc tatattagga tcaattccac tctccgcag ctccacgcgt agcattagct 30905  
gcaaaaagtc atttaaactc tcgcaacta gcgcggtaag ctcgccgccg ggaattaggt 30965  
ctgaagcagt caccacacac ataatttcca gtgaaggagt cagtctaagc agcaaaaagc 31025  
cgcatgagca gtgttgaaaa ggaggggtca cgcaatgtaa catatgcagc caaaaatctc 31085  
caagggtgtc gtgcataaac tccaccactg aaaagtccaa atcatgtaaa tatgccatca 31145

ccgcctcagg aaccaccacg gacacaaaaa cgggccgtag caaatacatg gtgtcctgca 31205  
 aagcaaaaac acatttatac catagaggcg cgaattactt ggggaaaaat cactcgctcc 31265  
 aaaactaaac aggccaccgt ctgaccgcgc cagccataaa aaaagcggtt cgaatgatta 31325  
 aaaagaataa tagacacctc ccaccaggta ctcggctgca actcgtgcgc ccctatcaaa 31385  
 accccgcgga cgttcatgtc ggccatagaa aaaatgcggc ccaaatatcc caccggaatc 31445  
 tccacggcca gctgcagtga tagcaaaaga acgccatgag gagcaatcac aaaattttca 31505  
 ggcgataaaa gcacataaag gttagaatag ccctgctgca caggtaataa agcccgcgag 31565  
 ctgagcaaat gcacataaac cgcttcagcc atcccgtctt accgcgaaca aaaggctcac 31625  
 agtacacagt tactcaacct acacgccaca cagtatttat acactcctca atcgccacgt 31685  
 caccgcggcc gaacaaactc caaaagtcca aaaagtccaa aacgcccgcg taaaagcccg 31745  
 caaaaacagc atttctcat ttactctccc acagtacgtc acttccgccc cgcccgcgcg 31805  
 cctcgccccg cctcaccct cgcgtccac cccgcgcccc acgtcagact cccaccccgc 31865  
 cccgcgcccc cgctatccgc accccaccct cactccacc ctaaccccgc ctctcatta 31925  
 tcatattggc accgttccca aataagggtat attatgatga tg 31967

<210> 13  
 <211> 508  
 <212> PRT  
 <213> Simian adenovirus

<400> 13

Met Arg Arg Ala Val Gly Val Pro Pro Val Met Ala Tyr Ala Glu Gly  
 1 5 10 15

Pro Pro Pro Ser Tyr Glu Thr Val Met Gly Ala Ala Asp Ser Pro Ala  
 20 25 30

Thr Leu Glu Ala Leu Tyr Val Pro Pro Arg Tyr Leu Gly Pro Thr Glu  
 35 40 45

Gly Arg Asn Ser Ile Arg Tyr Ser Glu Leu Ala Pro Leu Tyr Asp Thr  
 50 55 60

Thr Arg Val Tyr Leu Val Asp Asn Lys Ser Ala Asp Ile Ala Ser Leu  
 65 70 75 80

Asn Tyr Gln Asn Asp His Ser Asn Phe Leu Thr Thr Val Val Gln Asn  
 85 90 95

Asn Asp Phe Thr Pro Val Glu Ala Gly Thr Gln Thr Ile Asn Phe Asp  
 100 105 110

Glu Arg Ser Arg Trp Gly Gly Asp Leu Lys Thr Ile Leu Arg Thr Asn  
 115 120 125

Met Pro Asn Ile Asn Glu Phe Met Ser Thr Asn Lys Phe Arg Ala Arg

130

135

140

Leu Met Val Glu Lys Val Asn Lys Glu Thr Asn Ala Pro Arg Tyr Glu  
 145 150 155 160

Trp Phe Glu Phe Thr Leu Pro Glu Gly Asn Tyr Ser Glu Thr Met Thr  
 165 170 175

Ile Asp Leu Met Asn Asn Ala Ile Val Asp Asn Tyr Leu Glu Val Gly  
 180 185 190

Arg Gln Asn Gly Val Leu Glu Ser Asp Ile Gly Val Lys Phe Asp Thr  
 195 200 205

Arg Asn Phe Arg Leu Gly Trp Asp Pro Val Thr Lys Leu Val Met Pro  
 210 215 220

Gly Val Tyr Thr Asn Glu Ala Phe His Pro Asp Ile Val Leu Leu Pro  
 225 230 235 240

Gly Cys Gly Val Asp Phe Thr Gln Ser Arg Leu Ser Asn Leu Leu Gly  
 245 250 255

Ile Arg Lys Arg Met Pro Phe Gln Ala Gly Phe Gln Ile Met Tyr Glu  
 260 265 270

Asp Leu Glu Gly Gly Asn Ile Pro Ala Leu Leu Asp Val Ala Lys Tyr  
 275 280 285

Glu Ala Ser Ile Gln Lys Ala Arg Glu Gln Gly Gln Glu Ile Arg Gly  
 290 295 300

Asp Asn Phe Thr Val Ile Pro Arg Asp Val Glu Ile Val Pro Val Glu  
 305 310 315 320

Lys Asp Ser Lys Asp Arg Ser Tyr Asn Leu Leu Pro Gly Asp Gln Thr  
 325 330 335

Asn Thr Ala Tyr Arg Ser Trp Phe Leu Ala Tyr Asn Tyr Gly Asp Pro  
 340 345 350

Glu Lys Gly Val Arg Ser Trp Thr Leu Leu Thr Thr Thr Asp Val Thr  
 355 360 365

Cys Gly Ser Gln Gln Val Tyr Trp Ser Leu Pro Asp Met Met Gln Asp  
 370 375 380

Pro Val Thr Phe Arg Pro Ser Ser Gln Val Ser Asn Tyr Pro Val Val  
 385 390 395 400

Gly Val Glu Leu Leu Pro Val His Ala Lys Ser Phe Tyr Asn Glu Gln  
 405 410 415

Ala Val Tyr Ser Gln Leu Ile Arg Gln Ser Thr Ala Leu Thr His Val  
 420 425 430

Phe Asn Arg Phe Pro Glu Asn Gln Ile Leu Val Arg Pro Pro Ala Pro  
 435 440 445

Thr Ile Thr Thr Val Ser Glu Asn Val Pro Ala Leu Thr Asp His Gly  
 450 455 460

Thr Leu Pro Leu Arg Ser Ser Ile Ser Gly Val Gln Arg Val Thr Ile  
 465 470 475 480

Thr Asp Ala Arg Arg Arg Thr Cys Pro Tyr Val His Lys Ala Leu Gly  
 485 490 495

Ile Val Ala Pro Lys Val Leu Ser Ser Arg Thr Phe  
 500 505

<210> 14  
 <211> 917  
 <212> PRT  
 <213> Simian adenovirus

<400> 14

Met Ala Thr Pro Ser Met Met Pro Gln Trp Ser Tyr Met His Ile Ala  
 1 5 10 15

Gly Gln Asp Ala Ser Glu Tyr Leu Ser Pro Gly Leu Val Gln Phe Ala  
 20 25 30

Arg Ala Thr Asp Thr Tyr Phe Ser Leu Gly Asn Lys Phe Arg Asn Pro  
 35 40 45

Thr Val Ala Pro Thr His Asp Val Thr Thr Asp Arg Ser Gln Arg Leu  
 50 55 60

Thr Leu Arg Phe Val Pro Val Asp Arg Glu Asp Thr Ala Tyr Ser Tyr  
 65 70 75 80

Lys Val Arg Phe Thr Leu Ala Val Gly Asp Asn Arg Val Leu Asp Met  
 85 90 95

Ala Ser Thr Tyr Phe Asp Ile Arg Gly Val Leu Asp Arg Gly Pro Ser  
 100 105 110

Phe Lys Pro Tyr Ser Gly Thr Ala Tyr Asn Ser Leu Ala Pro Lys Gly  
 115 120 125

Ala Pro Asn Pro Ser Glu Trp Lys Gly Ser Asp Asn Lys Ile Ser Val  
 130 135 140

Arg Gly Gln Ala Pro Phe Phe Ser Thr Ser Ile Thr Lys Asp Gly Ile  
 145 150 155 160  
 Gln Val Ala Thr Asp Thr Ser Ser Gly Ala Val Tyr Ala Lys Lys Glu  
 165 170 175  
 Tyr Gln Pro Glu Pro Gln Val Gly Gln Glu Gln Trp Asn Ser Glu Ala  
 180 185 190  
 Ser Asp Ser Asp Lys Val Ala Gly Arg Ile Leu Lys Asp Thr Thr Pro  
 195 200 205  
 Met Phe Pro Cys Tyr Gly Ser Tyr Ala Lys Pro Thr Asn Glu Gln Gly  
 210 215 220  
 Gly Gln Gly Thr Asn Thr Val Asp Leu Gln Phe Phe Ala Ser Ser Ser  
 225 230 235 240  
 Ala Thr Ser Thr Pro Lys Ala Val Leu Tyr Ala Glu Asp Val Ala Ile  
 245 250 255  
 Glu Ala Pro Asp Thr His Leu Val Tyr Lys Pro Ala Val Thr Thr Thr  
 260 265 270  
 Thr Thr Ser Ser Gln Asp Leu Leu Thr Gln Gln Ala Ala Pro Asn Arg  
 275 280 285  
 Pro Asn Tyr Ile Gly Phe Arg Asp Asn Phe Ile Gly Leu Met Tyr Tyr  
 290 295 300  
 Asn Ser Thr Gly Asn Met Gly Val Leu Ala Gly Gln Ala Ser Gln Leu  
 305 310 315 320  
 Asn Ala Val Val Asp Leu Gln Asp Arg Asn Thr Glu Leu Ser Tyr Gln  
 325 330 335  
 Leu Met Leu Asp Ala Leu Gly Asp Arg Ser Arg Tyr Phe Ser Met Trp  
 340 345 350  
 Asn Gln Ala Val Asp Ser Tyr Asp Pro Asp Val Arg Ile Ile Glu Asn  
 355 360 365  
 His Gly Val Glu Asp Glu Leu Pro Asn Tyr Cys Phe Pro Leu Gly Gly  
 370 375 380  
 Ser Leu Val Thr Glu Thr Tyr Thr Gly Leu Ser Pro Gln Asn Gly Ser  
 385 390 395 400  
 Asn Thr Trp Thr Thr Asp Ser Thr Thr Tyr Ala Thr Arg Gly Val Glu  
 405 410 415  
 Ile Gly Ser Gly Asn Met Phe Ala Met Glu Ile Asn Leu Ala Ala Asn  
 Page 127

420                      425                      430  
 Leu Trp Arg Ser Phe Leu Tyr Ser Asn Val Ala Leu Tyr Leu Pro Asp  
                     435                      440                      445  
 Glu Tyr Lys Leu Thr Pro Asp Asn Ile Thr Leu Pro Asp Asn Lys Asn  
                     450                      455                      460  
 Thr Tyr Asp Tyr Met Asn Gly Arg Val Ala Ala Pro Ser Ser Leu Asp  
                     465                      470                      475                      480  
 Thr Tyr Val Asn Ile Gly Ala Arg Trp Ser Pro Asp Pro Met Asp Asn  
                     485                      490                      495  
 Val Asn Pro Phe Asn His His Arg Asn Ala Gly Leu Arg Tyr Arg Ser  
                     500                      505                      510  
 Met Leu Leu Gly Asn Gly Arg Tyr Val Pro Phe His Ile Gln Val Pro  
                     515                      520                      525  
 Gln Lys Phe Phe Ala Ile Lys Asn Leu Leu Leu Leu Pro Gly Ser Tyr  
                     530                      535                      540  
 Thr Tyr Glu Trp Asn Phe Arg Lys Asp Val Asn Met Ile Leu Gln Ser  
                     545                      550                      555                      560  
 Ser Leu Gly Asn Asp Leu Arg Val Asp Gly Ala Ser Val Arg Phe Asp  
                     565                      570                      575  
 Ser Ile Asn Leu Tyr Ala Asn Phe Phe Pro Met Ala His Asn Thr Ala  
                     580                      585                      590  
 Ser Thr Leu Glu Ala Met Leu Arg Asn Asp Thr Asn Asp Gln Ser Phe  
                     595                      600                      605  
 Asn Asp Tyr Leu Cys Ala Ala Asn Met Leu Tyr Pro Ile Pro Ala Asn  
                     610                      615                      620  
 Ala Thr Ser Val Pro Ile Ser Ile Pro Ser Arg Asn Trp Ala Ala Phe  
                     625                      630                      635                      640  
 Arg Gly Trp Ser Phe Thr Arg Leu Lys Thr Lys Glu Thr Pro Ser Leu  
                     645                      650                      655  
 Gly Ser Gly Phe Asp Pro Tyr Phe Thr Tyr Ser Gly Ser Ile Pro Tyr  
                     660                      665                      670  
 Leu Asp Gly Thr Phe Tyr Leu Asn His Thr Phe Lys Lys Val Ser Ile  
                     675                      680                      685  
 Met Phe Asp Ser Ser Val Ser Trp Pro Gly Asn Asp Arg Leu Leu Thr  
                     690                      695                      700

Pro Asn Glu Phe Glu Ile Lys Arg Thr Val Asp Gly Glu Gly Tyr Asn  
705 710 715 720

Val Ala Gln Cys Asn Met Thr Lys Asp Trp Phe Leu Ile Gln Met Leu  
725 730 735

Ser His Tyr Asn Ile Gly Tyr Gln Gly Phe Tyr Val Pro Glu Gly Tyr  
740 745 750

Lys Asp Arg Met Tyr Ser Phe Phe Arg Asn Phe Gln Pro Met Ser Arg  
755 760 765

Gln Val Val Asp Thr Thr Thr Tyr Thr Asp Tyr Lys Asn Val Thr Leu  
770 775 780

Pro Phe Gln His Asn Asn Ser Gly Phe Val Gly Tyr Met Gly Pro Thr  
785 790 795 800

Met Arg Glu Gly Gln Ala Tyr Pro Ala Asn Tyr Pro Tyr Pro Leu Ile  
805 810 815

Gly Lys Thr Ala Val Pro Ser Leu Thr Gln Lys Lys Phe Leu Cys Asp  
820 825 830

Arg Thr Met Trp Arg Ile Pro Phe Ser Ser Asn Phe Met Ser Met Gly  
835 840 845

Ala Leu Thr Asp Leu Gly Gln Asn Met Leu Tyr Ala Asn Ser Ala His  
850 855 860

Ala Leu Asp Met Thr Phe Glu Val Asp Pro Met Asp Glu Pro Thr Leu  
865 870 875 880

Leu Tyr Val Leu Phe Glu Val Phe Asp Val Val Arg Ile His Gln Pro  
885 890 895

His Arg Gly Val Ile Glu Ala Val Tyr Leu Arg Thr Pro Phe Ser Ala  
900 905 910

Gly Asn Ala Thr Thr  
915

<210> 15  
<211> 607  
<212> PRT  
<213> Simian adenovirus

<400> 15

Met Lys Arg Ala Arg Leu Asp Asp Asp Phe Asn Pro Val Tyr Pro Tyr  
1 5 10 15

Asp Thr Pro Asn Ala Pro Ser Val Pro Phe Ile Thr Pro Pro Phe Val  
 20 25 30  
 Ser Ser Asp Gly Leu Gln Glu Lys Pro Pro Gly Met Leu Ser Leu Asn  
 35 40 45  
 Tyr Gln Asp Pro Ile Thr Thr Gln Asn Gly Ala Leu Thr Leu Lys Leu  
 50 55 60  
 Gly Ser Gly Leu Asn Ile Asn Gln Asp Gly Glu Leu Thr Ser Asp Ala  
 65 70 75 80  
 Ser Val Leu Val Thr Pro Pro Ile Thr Lys Ala Asn Asn Thr Ile Gly  
 85 90 95  
 Leu Ala Phe Asn Ala Pro Leu Thr Leu Gln Ser Asp Thr Leu Asn Leu  
 100 105 110  
 Ala Cys Asn Ala Pro Leu Thr Val Gln Asp Asn Arg Leu Gly Ile Thr  
 115 120 125  
 Tyr Asn Ser Pro Leu Thr Leu Gln Asn Ser Glu Leu Ala Leu Ala Val  
 130 135 140  
 Thr Pro Pro Leu Asp Thr Ala Asn Asn Thr Leu Ala Leu Lys Thr Ala  
 145 150 155 160  
 Arg Pro Ile Ile Thr Asn Ser Asn Asn Glu Leu Thr Leu Ser Ala Asp  
 165 170 175  
 Ala Pro Leu Asn Thr Ser Thr Gly Thr Leu Arg Leu Gln Ser Ala Ala  
 180 185 190  
 Pro Leu Gly Leu Val Asp Gln Thr Leu Arg Val Leu Phe Ser Asn Pro  
 195 200 205  
 Leu Tyr Leu Gln Asn Asn Phe Leu Ser Leu Ala Ile Glu Arg Pro Leu  
 210 215 220  
 Ala Leu Thr Thr Thr Gly Ser Met Ala Met Gln Ile Ser Gln Pro Leu  
 225 230 235 240  
 Lys Val Glu Asp Gly Ser Leu Ser Leu Ser Ile Glu Ser Pro Leu Asn  
 245 250 255  
 Leu Lys Asn Gly Asn Leu Thr Leu Gly Thr Gln Ser Pro Leu Thr Val  
 260 265 270  
 Thr Gly Asn Asn Leu Ser Leu Thr Thr Thr Ala Pro Leu Thr Val Gln  
 275 280 285  
 Asn Asn Ala Leu Ala Leu Ser Val Leu Leu Pro Leu Arg Leu Phe Asn

290

295

300

Asn Thr Ser Leu Gly Val Ala Phe Asn Pro Pro Ile Ser Ser Ala Asn  
 305 310 315 320

Asn Gly Leu Ser Leu Asp Ile Gly Asn Gly Leu Thr Leu Gln Tyr Asn  
 325 330 335

Arg Leu Val Val Asn Ile Gly Gly Gly Leu Gln Phe Asn Asn Gly Ala  
 340 345 350

Ile Thr Ala Ser Ile Asn Ala Ala Leu Pro Leu Gln Tyr Ser Asn Asn  
 355 360 365

Gln Leu Ser Leu Asn Ile Gly Gly Gly Leu Arg Tyr Asn Gly Thr Tyr  
 370 375 380

Lys Asn Leu Ala Val Lys Thr Asp Ser Phe Arg Gly Leu Glu Ile Asp  
 385 390 395 400

Ser Asn Gln Phe Leu Val Pro Arg Leu Gly Ser Gly Leu Lys Phe Asp  
 405 410 415

Gln Tyr Gly Tyr Ile Ser Val Ile Pro Pro Thr Val Thr Pro Thr Thr  
 420 425 430

Leu Trp Thr Thr Ala Asp Pro Ser Pro Asn Ala Thr Phe Tyr Asp Ser  
 435 440 445

Leu Asp Ala Lys Val Trp Leu Ala Leu Val Lys Cys Asn Gly Met Val  
 450 455 460

Asn Gly Thr Ile Ala Ile Lys Ala Leu Lys Gly Thr Leu Leu Gln Pro  
 465 470 475 480

Thr Ala Ser Phe Ile Ser Phe Val Met Tyr Phe Tyr Ser Asn Gly Thr  
 485 490 495

Arg Arg Thr Asn Tyr Pro Thr Phe Glu Asn Glu Gly Ile Leu Ala Ser  
 500 505 510

Ser Ala Thr Trp Gly Tyr Arg Gln Gly Asn Ser Ala Asn Thr Asn Val  
 515 520 525

Thr Ser Ala Val Glu Phe Met Pro Ser Ser Thr Arg Tyr Pro Val Asn  
 530 535 540

Lys Gly Thr Glu Val Gln Asn Met Glu Leu Thr Tyr Thr Phe Leu Gln  
 545 550 555 560

Gly Asp Pro Thr Met Ala Ile Ser Phe Gln Ala Ile Tyr Asn His Ala  
 565 570 575

Leu Glu Gly Tyr Ser Leu Lys Phe Thr Trp Arg Val Arg Asn Arg Glu  
                   580                                  585                                  590

Arg Phe Asp Ile Pro Cys Cys Ser Phe Ser Tyr Ile Thr Glu Glu  
                   595                                  600                                  605

<210> 16  
 <211> 24  
 <212> DNA  
 <213> Artificial

<220>  
 <223> synthetic oligomer

<400> 16  
 gcgacgggcc gacgctgccc ggct

24

<210> 17  
 <211> 4  
 <212> PRT  
 <213> Artificial

<220>  
 <223> artifical

<400> 17

Arg Arg Ala Ser  
 1

<210> 18  
 <211> 24  
 <212> DNA  
 <213> Artificial

<220>  
 <223> synthetic oligomer

<400> 18  
 gcggcgcgcc gacgctgccc ggct

24

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

☐ BLACK BORDERS

☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES

☒ FADED TEXT OR DRAWING

☒ BLURRED OR ILLEGIBLE TEXT OR DRAWING

☐ SKEWED/SLANTED IMAGES

☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS

☐ GRAY SCALE DOCUMENTS

☒ LINES OR MARKS ON ORIGINAL DOCUMENT

☒ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY

☐ OTHER: \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**